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**HASHTAG WARRIORS: THE INFLUENCE OF SOCIAL
MEDIA ON COLLECTIVE VIOLENCE IN UKRAINE**

by

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**HASHTAG WARRIORS: THE INFLUENCE OF SOCIAL MEDIA ON
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ABSTRACT

The Euromaidan Revolution in Ukraine in 2014 saw a series of violent events leading to the ousting of then-President Yanukovich. Opposition to the revolution spiraled into the annexation of Crimea by Russia and ongoing skirmishes in eastern and southern Ukraine. Akin to the Arab Spring in 2011 that illustrated the influence of new media in galvanizing disparate groups to revolt against state authorities, we show that the analysis of sentiments through social media messages relating to the Euromaidan movement in Ukraine from 2013 to 2014 can reveal evidence of nascent plots against Ukrainian state authorities. We systematically examined the exonyms in native languages used by the groups for and against the Euromaidan movement in reference to outsider groups during their mobilization in Ukraine, and conducted a series of statistical tests to analyze the significance of social media-derived sentiment metrics in predicting violence across different periods of political administration in Ukraine. Our analysis of the Euromaidan mobilization indicates that the application of algorithms coded to detect and measure prevalent dissent expressed in native lexicons through social media can be used to substantially improve the accuracy of geospatial forecasts of violent events.

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LIST OF ACRONYMS AND ABBREVIATIONS

AIC	Akaike Information Criterion
DLI	Defense Language Institute
G-Econ	Geographically based Economic Data
GDP	Gross Domestic Product
GED	Georeferenced Event Dataset
IPUMS	Integrated Public Use Microdata Series
NPS	Naval Postgraduate School
SME	Subject Matter Expert
UCDP	Uppsala Conflict Data Program
URL	Uniform Resource Locator

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I. INTRODUCTION

The fixation with the internet and social media has permeated across modern society, with the number of users, diversity of social media platforms, and average time spent on those platforms surging over recent years.¹ This has inadvertently altered prior cultural and societal norms that impact how people interact with, and process, information. The advancement in information and communication technologies has provided an alternate channel for entities to exploit the utility of social media platforms to promulgate narratives, modify cognitive structures, and potentially polarize factions along lines of social difference.² This phenomenon was evident during the Euromaidan Revolution in 2014 where Ukraine's population was fractured between pro-West and pro-Russian factions. The situation was exacerbated as Ukrainians broadcast their negative sentiments on social media, leading to increased aggression, cumulating in a series of violent events that led to the ousting of then-President Yanukovich. Opposition to the revolution ignited further clashes that spiraled into the annexation of Crimea by Russia and ongoing skirmishes in eastern and southern Ukraine.

Civil unrest has historically been attributed to the state's incapacity to exert its influence on the people.³ Conversely, the side that dominates the social media realm may potentially possess the corresponding power to manipulate the populace's emotions. It is important that we unravel this enigma as social media's extent of influence over the public's interpretation of information grows exponentially. In order to avert instances where both local and external agents attempt to incite dissidence through various channels of digital propaganda, it may be wise for state governments to acknowledge the

¹ Nic Newman, "The Rise of Social Media and Its Impact on Mainstream Journalism," *Reuters Institute for the Study of Journalism*, University of Oxford (September 2009), 2.

² Sean Aday et al., "Blogs and Bullets: New Media in Contentious Politics," *United States Institute of Peace* no. 65 (August 2010), 26-27.

³ Stathis N. Kalyvas, *The Logic of Violence in Civil War* (Cambridge, UK: Cambridge University Press, 2006), 12-16; Charles Tilly, *The Politics of Collective Violence* (Cambridge, UK: Cambridge University Press, 2003), 27-54.

significance of “soft power” and optimize its utility to monitor and influence the behavior of the populace.

The impetus for our investigation is a desire to evaluate social media’s distinctive capacity to influence one’s convictions in order to instigate specific behavioral impulses. If a correlation could be drawn between the virtual propagation of public sentiments and the physical manifestation of violent predispositions, then state administrations can potentially utilize a cyber trawling algorithmic tool to closely monitor the pulse of the populace’s sentiments and develop accompanying policies to foster affirmative social expectations while mediating any potential political quagmires before the onset of collective violence.

Our thesis is structured as follows. Chapter II focuses on a literature review of theories that illustrate the efficacy of “hard power” versus “soft power” by state authorities to manipulate human behavior; the mechanisms used to quantify human sentiments promulgated on social media through the application of specific lexicons; and new media’s capacity to establish group identities that band like-minded individuals together, thus increasing the propensity toward collective violence. Chapter III delves into the power struggle between the Ukrainian and Russian government, the precarious complications of high ethnic polarization existent within Crimea and the Donbass region, as well as how both states exploited the utility of new media communication channels as part of their “soft power” strategy to further their respective political objectives, resulting in the development of the Euromaidan movement within Ukraine in 2014.

Earlier thesis researchers from the Naval Postgraduate School (NPS) have conducted similar experiments to establish an association between the populace’s sentiments and local social media linguistic trends in Yemen and Iraq.⁴ Their investigations have revealed that monitoring specific semantics propagated on Twitter can serve to predict

⁴ Andrew K. Bourret, Joshua D. Wines, and Jason M. Mendes, “Assessing Sentiment in Conflict Zones through Social Media” (master’s thesis, Naval Postgraduate School, 2016), 1-2; Harold G. Frost, Anthony W. Evans, and Robert H. Hodges Jr., “Understanding Violence through Social Media” (master’s thesis, Naval Postgraduate School, 2017), 1-2.

the propensity for violence within the corresponding region.⁵ To further augment the robustness of this field of analytics, our thesis seeks to investigate the influence of social media in other parts of the world experiencing similar political struggles that result in violent conflicts.

In order to establish the legitimacy of our research, we adopted a similar quantitative approach. We coded a set of predictive algorithms to consolidate online propagation of dissent against the Ukrainian government in native lexicons extracted from Twitter data and overlaid it with a geospatial archive of violent events in Ukraine across a parallel time frame. We then analyzed the correlation between the volume of specific kinds of messages and the onset of civil violence occurring within the region across the various periods of state administrations, from pro-Russian to the installation of a pro-West administration under the leadership of President Poroshenko following the ousting of former President Yanukovich. Chapter IV details the research method and variables taken into account for our statistical models. The data consolidated to develop our algorithm consist of three billion messages and 40 terabytes of pre-collected Twitter data, licensed by NPS, between August 2013 and July 2014, which coincides with the duration of the Euromaidan Revolution. Through collaboration with language experts from the Defense Language Institute (DLI), we were able to trawl through the extensive Twitter data by referencing a comprehensive library of lexicons in both Russian and Ukrainian. In order to ascertain the veracity of the relationship between related Tweets and the occurrence of violent events, we further incorporated several control variables such as economic conditions, population density and ethnic composition within the region of study.

Chapter V examines the results of our statistical analysis and elaborates on the key findings of our thesis. The Arab Spring in 2011 illustrated the influence of new media in galvanizing disparate groups to revolt against state authorities. Expanding the research outside of developing countries and incorporating new strategies for search algorithms, we hypothesize that the analysis of sentiments through social media data exchanges relating to the Euromaidan movement in Ukraine from 2013 to 2014 could reveal potential plots

⁵ Frost, Evans, and Hodges Jr., 29-35.

against the Ukrainian state authority. Through the application of our algorithms, coded to detect and measure prevalent dissent expressed in native lexicons against the incumbent government in each specific political time frame, the resultant statistical models derived from our data analysis demonstrate a strong correlation between negative sentiments propagated on Twitter and the manifestation of violent events in Ukraine.

Chapter VI summarizes the entire thesis and distills the lessons learned through the integration of both the conceptual and statistical analysis to understand the relationship between social media's influence on people and its capacity to incite collective violence. Based off the insights gleaned, we then propose feasible recommendations to mitigate the political struggles faced in volatile regions. The inadequacies of our research and other potentially uncharted areas that future academics can explore within this novel field of research are also discussed.

II. LITERATURE REVIEW

A. HARD POWER VERSUS SOFT POWER

The rise of civil violence has historically been attributed to the failure of the state to exert its influence on a sizeable share of the populace.⁶ Given the legitimacy of the state authority to rule, the rise of civil violence seemingly alludes to failure of the state authority's ability to suppress emerging insurgency or rebellion through mechanisms of "hard power," such as the power to coerce, the purchase of compliance, or the power to reward.⁷ In the coercion camp, Fearon and Laitin propose the use of gross domestic product (GDP) per capita as a proxy for the state authority's strength, measured in terms of its military and its administrative and bureaucratic capacity, and contend that such measures of economic advancement reflect the state authority's capacity to impose coercive force to deter violence.⁸ In the reward camp, Collier and Hoeffler claim that GDP per capita mirrors the economic capacity to compete directly against rebel recruitment by gaining support through the provision of inducements such as public services and ethnic accommodation.⁹ These thoughts are fairly consistent with leading literature in international relations and

⁶ Kalyvas, 12-16; Tilly, 27-54.

⁷ Hanne Fjelde and Indra De Soysa, "Coercion, Co-Optation, or Cooperation? State Capacity and the Risk of Civil War, 1961—2004," *Conflict Management and Peace Science* 26, no. 1 (February 2009), 6–11, <https://doi.org/10.1177/0738894208097664>; James D. Fearon, "Primary Commodity Exports and Civil War," *Journal of Conflict Resolution* 49, no. 4 (August 2005), 483–487, <https://doi.org/10.1177/0022002705277544>; Hanne Fjelde, "Buying Peace? Oil Wealth, Corruption and Civil War, 1985—99," *Journal of Peace Research* 46, no. 2 (March 2009), 199–204, <https://doi.org/10.1177/0022343308100715>; Macartan Humphreys, "Natural Resources, Conflict, and Conflict Resolution: Uncovering the Mechanisms," *Journal of Conflict Resolution* 49, no. 4 (August 2005), 510–513, <https://doi.org/10.1177/0022002705277545>; Bertram H. Raven, "The Bases of Power and the Power/Interaction Model of Interpersonal Influence," *Analyses of Social Issues and Public Policy* 8, no. 1 (December 2008), 1–4.

⁸ James D. Fearon and David D. Laitin, "Ethnicity, Insurgency, and Civil War," *American Political Science Review* 97, no. 1 (February 2003), 75–76, <https://doi.org/10.1017/S0003055403000534>.

⁹ Paul Collier and Anke Hoeffler, "On the Incidence of Civil War in Africa," *Journal of Conflict Resolution* 46, no. 1 (February 2002), 15–17, <https://doi.org/10.1177/0022002702046001002>; Jean-Paul Azam, "How to Pay for the Peace? A Theoretical Framework with References to African Countries," *Public Choice* 83, no. 1–2 (April 1995), 174–176; Jean-Paul Azam and Alice Mesnard, "Civil War and the Social Contract," *Public Choice* 115, no. 3–4 (June 2003), 456–457; Halvard Buhaug, "Relative Capability and Rebel Objective in Civil War," *Journal of Peace Research* 43, no. 6 (November 2006), 695–697; Jennifer Gandhi and Adam Przeworski, "Cooperation, Cooptation, and Rebellion under Dictatorships," *Economics & Politics* 18, no. 1 (March 2006), 14–15, <https://doi.org/10.1111/j.1468-0343.2006.00160.x>.

political sociology pitching “hard power” as the means to repress the emergence of civil violence.¹⁰ However, looking beyond the implicit assumption that this collapsed capacity is highly correlated with GDP per capita, the generalization of military, administrative and bureaucratic capacities into a single state capacity indicator can neither reveal the operational efficiency of the individual components nor equate the authority’s success to any particular mechanism of “hard power.”¹¹

Compliance of the local populace could also be secured through “soft power.” Originally conceptualized by Carr as “propaganda power” and akin to what Lukes termed as the “third dimension” of power, Nye and Raven suggest that political leaders could transpose their values, beliefs and interests through carefully scripted narratives in tune with traditional norms and practices that seek to influence the behavior of the collective populace.¹² In other words, political messaging through communication channels “work essentially as persuasive historical stories that prompt people to embrace the valorized identities, play the stirring roles, and have fulfilling experiences that political leaders strive

¹⁰ Barry R. Posen, “The Security Dilemma and Ethnic Conflict,” *Survival* 35, no. 1 (March 1993), 28–29, <https://doi.org/10.1080/00396339308442672>; Chaim Kaufmann, “Possible and Impossible Solutions to Ethnic Civil Wars,” *International Security* 20, no. 4 (April 1996), 164–166, <https://doi.org/10.2307/2539045>; James D. Fearon, “Economic Development, Insurgency, and Civil War,” *Institutions and Economic Performance* 292 (May 2007), 14–15; Jeffrey Herbst, *States and Power in Africa: Comparative Lessons in Authority and Control* (Princeton, NJ: Princeton University Press, 2014), 13–14; Jeffrey Herbst, “African Militaries and Rebellion: The Political Economy of Threat and Combat Effectiveness,” *Journal of Peace Research* 41, no. 3 (May 1, 2004), 357–358, <https://doi.org/10.1177/0022343304043774>; Tilly, 27–54; Christian Davenport, “State Repression and the Tyrannical Peace,” *Journal of Peace Research* 44, no. 4 (July 2007), 487–488, <https://doi.org/10.1177/0022343307078940>; Christian Davenport, “State Repression and Political Order,” *Annual Review of Political Science* 10, no. 1 (May 2007), 2–8, <https://doi.org/10.1146/annurev.polisci.10.101405.143216>.

¹¹ Cullen S. Hendrix, “Measuring State Capacity: Theoretical and Empirical Implications for the Study of Civil Conflict,” *Journal of Peace Research* 47, no. 3 (May 2010), 274; Timothy C. Warren, “Not by the Sword Alone: Soft Power, Mass Media, and the Production of State Sovereignty,” *International Organization* 68, no. 1 (January 2014), 114.

¹² Edward H. Carr, *The Twenty Years’ Crisis, 1919–1939: An Introduction to the Study of International Relations* (New York: Harper & Row, 1964), 120–134; Steven Lukes, *Power: A Radical View* (London and New York: Macmillan, 1974), 109–110; Steven Lukes, “Power and the Battle for Hearts and Minds,” *Millennium* 33, no. 3 (June 2005), 486–487, <https://doi.org/10.1177/03058298050330031201>; Joseph S. Nye, “Soft Power,” *Foreign Policy*, no. 80 (October 1990), 167–68, <https://doi.org/10.2307/1148580>; James G. March and Johan P. Olsen, “The Institutional Dynamics of International Political Orders,” *International Organization* 52, no. 4 (1998), 959–963; Thomas Risse, Stephen C. Ropp, and Kathryn Sikkink, *The Power of Human Rights: International Norms and Domestic Change* (Cambridge, UK: Cambridge University Press, 1999), 6–8; Bertram H. Raven, “Political Applications of the Psychology of Interpersonal Influence and Social Power,” *Political Psychology* 11, no. 3 (September 1990), 495–497, <https://doi.org/10.2307/3791662>.

to evoke for them, whether through arguments, rhetoric, symbols, or stories of a more obvious and familiar sort.”¹³ With the success of “soft power,” the necessity of mechanisms such as coercion and reward can be a moot point. This, in turn, could enhance the legitimacy of the authority and quash any uprising attempts at the onset.¹⁴ Failure, on the other hand, could require the co-opting of “hard power” mechanisms to maintain control, and worst, reinvigorate the rebellion to rise and wrestle control of the populace from the state authority.

In their analysis of insurgent conflicts, Leites and Wolf suggest that the rise of a rebellion can be distinguished by two stages: a formative stage and an advanced stage.¹⁵ At its formative stage, the insurgents are confined by both the resources available — people, arms, money, information, etc.—and the accompanying operating space. Resources will need to be replenished to fund (or at the minimum sustain) the insurgent’s activities so as to lay the conditions for the insurgency to grow bigger and progress toward the advanced stage over time. The insurgent group needs to leverage its sole position of strength over the state authority at the onset: its relative control of the information domain with regard to its plans and activities. The growing success of one group against the state authority could motivate and trigger follow-on conflicts by other aggrieved groups in the near vicinity.¹⁶ The efficient utilization of this information superiority over the state authority would not only ensure the survival and growth of the insurgent group but also erode the relative material strength of the state authority over time. On the contrary, should

¹³ Rogers M. Smith, *Stories of Peoplehood: The Politics and Morals of Political Membership* (Cambridge, UK: Cambridge University Press, 2003), 44-45.

¹⁴ Stephen D. Krasner, *Sovereignty: Organized Hypocrisy* (Princeton, NJ: Princeton University Press, 1999), 65-68; Margaret Levi, “Why We Need a New Theory of Government,” *Perspectives on Politics* 4, no. 1 (March 2006), 6-7, <https://doi.org/10.1017/S1537592706060038>; Ian Hurd, “Legitimacy and Authority in International Politics,” *International Organization* 53, no. 2 (April 1999), 388–389; Alexander Wendt, *Social Theory of International Politics* (Cambridge, UK: Cambridge University Press, 1999), 8-10; David A. Lake, “Relational Authority and Legitimacy in International Relations,” *American Behavioral Scientist* 53, no. 3 (November 2009), 332–333, <https://doi.org/10.1177/0002764209338796>.

¹⁵ Nathan Leites and Charles Wolf Jr., *Rebellion and Authority: An Analytic Essay on Insurgent Conflicts*, No. RAND-R-462-ARPA (Santa Monica, CA:RAND, 1970), 51, <https://apps.dtic.mil/dtic/tr/fulltext/u2/705020.pdf>.

¹⁶ Nils-Christian Bormann and Jesse Hammond, “A Slippery Slope: The Domestic Diffusion of Ethnic Civil War,” *International Studies Quarterly* 60, no. 4 (December 2016), 589–591, <https://doi.org/10.1093/isq/sqw031>.

the state authority be successful in achieving information parity or more, it could bring to bear its relative material strength to rid the insurgent group completely. The earlier the authority can negate its information weakness, the lesser the cost of resource commitment to eliminate the insurgent group. Hence, one would reach the conclusion that insurgent groups should communicate their intent covertly, while the state authority should invest resources into information and intelligence networks to foil the communication networks of potential insurgent groups, ideally during the latter's formative stage before the onset of violence.

Separately, Leites and Wolf observe that the corresponding control effected by the authority could reduce the endogenous supply of resources funding the insurgent growth.¹⁷ What is undiscussed, however, is how the potential influence by an external actor could upset the pre-existing balance between the authority and the insurgent group, and tilt the balance in favor of the insurgent group. Leveraging on their information superiority to conduct pre-emptive actions and aided by the forward deployment of Russian troops and equipment, pro-Russian separatists were able to take control of Crimea with minimal force in less than a month, leading to the annexation of Crimea by Russia on March 18, 2014. Akin to Russian intervention in Transnistria in the 1990s, and Abkhazia and South Ossetia in 2008, the annexation of Crimea and the ongoing skirmishes in eastern Ukraine reflect how quickly the control authority can change with external support funding the growth of an internal uprising.¹⁸

B. INFLUENCE OF NEW MEDIA

Cultural and societal norms shape how the populace behaves and sees the world. Warren establishes that increases in mass media penetration reduce civil violence; hence, the effective use of state-controlled media should provide the state authority with a relative

¹⁷ Leites and Wolf, 71–89.

¹⁸ Uri Friedman, "Putin's Playbook: The Strategy Behind Russia's Takeover of Crimea," *The Atlantic*, last modified March 2, 2014, <http://www.theatlantic.com/international/archive/2014/03/putins-playbook-the-strategy-behind-russias-takeover-of-crimea/284154/>; Lucy Ash, "How Russia Outfoxes Its Enemies," BBC News, last modified January 29, 2015, <http://www.bbc.com/news/magazine-31020283/>.

advantage over activist groups in the information domain.¹⁹ However, the advancement in information and communication technologies has threatened to upset the existing balance. Societal stability within a country relies intimately upon the government's capacity to assert and maintain its legitimacy over its designated political sphere.²⁰ Even despotic regimes with absolute control over the country could be susceptible to possible exploitation of new media by activist groups—already bonded locally by strong ties and shared norms—to polarize like-minded distant factions along social differences and instigate bigotry through brokerage via selected social platforms.²¹ Perceived aggression by the state authority against one or more activist “out-groups” may elevate its importance and salience, triggering other like-minded distant activist groups that identify themselves as part of the larger “collective in-group identity” to adopt more polarizing and extreme views, potentially leading to the plotting and execution of violent activities in defense of the imagined group identity.²²

Upon the outbreak of the Arab Spring in 2011, the Arab world witnessed a massive surge of civil protests that led to violent confrontations within authoritarian states, thereby shifting the region's political environment.²³ Social media platforms served an essential function during the turmoil, connecting foreign patrons intimately with indigenous plight through real-time digital uploads.²⁴ Consequently, there has been an increasing consensus on the significance of the role that new media plays in galvanizing disenchanting youth in

¹⁹ Warren, “Not by the Sword Alone,” 118–121.

²⁰ Timothy C. Warren, “Explosive Connections? Mass Media, Social Media, and the Geography of Collective Violence in African States,” *Journal of Peace Research* 52, no. 3 (May 2015), 297, <https://doi.org/10.1177/0022343314558102>.

²¹ Sean Aday et al., “Blogs and Bullets,” 26–27.

²² Marc Sageman, *Misunderstanding Terrorism* (Philadelphia: University of Pennsylvania Press, 2016), 98–100; Cass R. Sunstein, “The Law of Group Polarization,” *Journal of Political Philosophy* 10, no. 2 (June 2002), 177–178, <https://doi.org/10.1111/1467-9760.00148>.

²³ Sean Aday et al., “New Media and Conflict After the Arab Spring,” *United States Institute of Peace* no. 80 (July 2012), 3.

²⁴ Sean Aday et al., “New Media and Conflict After the Arab Spring,” 3.

particular, and inspiring uprising sentiments through the rampant propagation of information on social media platforms such as Facebook and Twitter.²⁵

In an investigation conducted by Pierskalla and Hollenbach, they found a statistically substantiated relationship between the availability of mobile communication and level of organized violence.²⁶ They contend that the introduction of mobile communication into Africa alleviated organizational complications faced by activist groups, thus enhancing their ability to coordinate and carry out organized violence against the incumbent government.²⁷ This led them to conclude that the utility of new media, through the endemic spread and connectivity of modern mobile technology to promulgate information, eases the process of inciting communal conflict and exacerbating organized violence.²⁸ In addition, depending on how either side exploits the utility of mobile communications, it can potentially embolden activists to engage in more hostilities, or reinforce the government's control over the population through pre-emptive surveillance and intervention of potential political threats.²⁹ Pierskalla and Hollenbach argue that the increasing availability of affordable and widespread communication in an underdeveloped Africa enable people to spontaneously promulgate their sentiments, even within repressive regimes, which engenders mutual trust and heightens awareness amongst group members, fulfilling the prerequisites to rapidly garner mass support for a common cause, and easing coordination efforts for collective violence across multiple locations.³⁰

²⁵ Wael Ghonim, *Revolution 2.0: The Power of the People is Greater than the People in Power: A Memoir* (New York: Houghton Mifflin Harcourt, 2012), 63.

²⁶ Jan H. Pierskalla and Florian M. Hollenbach, "Technology and Collective Action: The Effect of Cell Phone Coverage on Political Violence in Africa," *American Political Science Review* 107 no. 2 (May 2013), 208.

²⁷ Pierskalla and Hollenbach, 208; Jeremy M. Weinstein, *Inside Rebellion: The Politics of Insurgent Violence* (Cambridge, UK: Cambridge University Press, 2006), 131.

²⁸ Pierskalla and Hollenbach, 208; Sheri Berman, "Civil Society and the Collapse of the Weimar Republic," *World Politics* 49, no. 3 (April 1997), 426-427.

²⁹ Pierskalla and Hollenbach, 209; Steven Livingston, *Africa's Evolving Infosystems: A Pathway to Security and Stability*, Research Paper no. 2 (National Defense University Washington DC Africa Center for Strategic Studies, March 2011), 23; Jacob N. Shapiro and Nils B. Weidmann, "Is the Phone Mightier than the Sword? Cellphones and Insurgent Violence in Iraq." *International Organization* 69, no. 2 (April 2015), 5-6.

³⁰ Pierskalla and Hollenbach, 210-211; Clay Shirky, *Here Comes Everybody: The Power of Organizing Without Organizations* (New York: Penguin, 2008), 51.

In related research, Warren reinforced Pierskalla and Hollenbach's findings by illustrating how the extent of traditional mass media and new social media penetration could impact the populace's propensity for violence, particularly in regions lacking in traditional infrastructure—television, radio and printed press—where social media is more readily accessible due to the cheap proliferation of cell phones.³¹ Therefore, developing countries necessitate their political authorities to be more cognizant of social media penetration, because it increases the populace's susceptibility to engage in violent activism when they are incapable of providing a uniform distribution of government services and influence throughout the entire region due to the lack of modern communication infrastructure.³² Warren argues that the state and its political opponents are constantly engaged in a contest to expand their influence through different avenues of communication; the state relies on mass communication media to traverse social enclaves in an attempt to establish vertical relationships with the populace by publicly broadcasting a consistent narrative of unity and trust, while its political opponents exploit social media platforms for their capacity to establish multiple horizontal relationships with segregated audiences in order to proliferate contentious propaganda which may incite violent activism.³³

Whether new media incites divisions between groups of people with differing beliefs—by establishing segregated avenues where people reinforce their convictions through the selective promulgation of bigoted narratives—or that its effect is inconsequential to the larger political agenda is debatable.³⁴ The *Blogs and Bullets* report investigates the contrasting opinions on the significance of new media in recent conflicts. One faction credits new media for advocating democracy and capitalism, exemplified by Twitter's efficacy during the Iranian Green Movement in 2009, while the opposing faction condemns new media for aggravating violence in countries such as Kenya, Uganda, and

³¹ Warren, "Explosive Connections," 298.

³² Warren, "Explosive Connections," 300; Kalyvas, 12-16.

³³ Warren, "Explosive connections," 300-301; Asa Briggs and Peter Burke, *A Social History of the Media: From Gutenberg to the Internet* (Cambridge: Polity Press, 2009), 101-120.

³⁴ Cass R. Sunstein, "Neither Hayek nor Habermas," *Public Choice* 134, no. 1-2 (January 2008), 92-94; Michael Gerson, "Banish the Cyber-Bigots," *Washington Post*, last modified September 25, 2009, www.washingtonpost.com/wp-dyn/content/article/2009/09/24/AR2009092403932.html.

the Czech Republic, where despotic governments exploit information technologies to subjugate the population under strict surveillance.³⁵

C. MEASURING SENTIMENTS VIA NEW MEDIA

The immense accumulation of internet data and increasing capability of big data analytics present an unprecedented opportunity to analyze the available data and reveal obscured networks and unexpected relationships through social profiles and patterns.³⁶ Warren asserts that before the fruition of organized violence can occur, the antagonistic political narratives have to first be promulgated effectively in order to garner popular support from the masses.³⁷ This alludes to the prospect of foreseeing potential outbreaks of political violence by detecting rising trends of vindictive propaganda through social communication platforms.³⁸ Extending along this trajectory, social media platforms present an alternative avenue for researchers to comprehend and quantify the complex psyche of humans, and evaluate one's hypotheses on new media's impact on inciting political violence.³⁹ However, it is quintessential to note the anonymity, ambiguity, and restrictive representation of the extracted data for the analysis of new media, as online data are often saturated with distorted information propagated by agents or programs with vested interests, or presented in foreign languages and slangs which require contextual

³⁵ Mark Pfeifle, "A Nobel Peace Prize for Twitter?" *The Christian Science Monitor*, last modified July 6, 2009, <https://www.csmonitor.com/Commentary/Opinion/2009/0706/p09s02-coop.html>; Joe Powell, "Amid Censorship and Threats Ugandans Turn to New Media," *The Independent*, last modified September 23, 2009, <https://www.independent.co.ug/amid-censorship-threats-ugandans-turn-new-media/>; Joshua Goldstein and Juliana Rotich, "Digitally Networked Technology in Kenya's 2007–2008 Post-Election Crisis," *Berkman Center Research Publication 9* (September 2008), 4-5.

³⁶ Sean Aday et al., "New Media and Conflict After the Arab Spring," 5.

³⁷ Timothy C. Warren, "The Technology of Statecraft in the Age of Social Media: Idioms of Authority and Radicalization in Nigeria Social Communication," in *Annual Meeting of the American Political Science Association*, 2016, 3.

³⁸ Warren, "The Technology of Statecraft in the Age of Social Media," 3.

³⁹ Warren, "The Technology of Statecraft in the Age of Social Media," 6.

interpretations and potentially preclude people in developing regions with limited access to the internet.⁴⁰

In their research, Bourret, Wines, and Mendes geo-referenced massive amounts of Twitter data to obtain approximate locations of relevant feeds in Yemen, before compiling an archive of lexicons to measure the intensity of sentiments represented by each related post.⁴¹ Subsequently, Bourret, Wines, and Mendes framed their algorithms to develop data sets that quantify the level of support for the government versus that for the violent activists.⁴² Further studies conducted recently on new media focuses on developing a predictive algorithm to detect prevalent dissent, in the absence of credible physical intelligence, through data analytics in order to provide early warning for the political authority.⁴³ Frost, Evans, and Hodges Jr. utilized native Arabic lexicons extracted from local social media platforms to anticipate violence within Iraq so as to enhance the government's situational awareness.⁴⁴ The set of identified lexicons were then systematically assigned values across a scale to quantify the strength of the sentiment it exudes. Subsequently, the dataset was overlaid onto a geospatial archive of violent activities across a parallel time frame in order to ascertain its relationship with negative sentiments broadcasted on social media.

Previous studies in this novel field have gathered great insights by analyzing a wide array of social, political, and technological variables, in an attempt to reveal the enigmatic influence new media has on modern society, and to determine the latent conditions within a country that serve as catalysts to incite collective violence through the dissemination of negative sentiments. This research focused primarily in the Middle East and Africa region

⁴⁰ Stephen Ansolabehere and Eitan Hersh, "Validation: What Big Data Reveal About Survey Misreporting and the Real Electorate," *Political Analysis* 20, no. 4 (June 2012), 439-441; Pablo Barberá and Gonzalo Rivero, "Understanding the Political Representativeness of Twitter Users," *Social Science Computer Review* 33, no. 6 (December 2015), 717.

⁴¹ Bourret, Wines, and Mendes, 20.

⁴² Bourret, Wines, and Mendes, 20-21.

⁴³ Frost, Evans, and Hodges Jr., 1.

⁴⁴ Frost, Evans, and Hodges Jr., 10.

where inter-group violence has ostensibly proliferated since the introduction of new media and the increasing accessibility of communication infrastructure and mobile devices.

Our thesis endeavors to augment earlier studies by taking an innovative approach to analyze a different set of variables and determine its correlation with the manifestation of collective violence in an alternative region. Ukraine and Russia share an enduring, but contentious history, resulting in a constant and fierce struggle for political power in their border territories. The resentment between polarized local ethnic groups culminated in the outbreak of the Euromaidan Revolution in 2013 and 2014.

In order to quantify the significance of social media in this predicament, we systematically examined the exonyms, unique terms which are conceived by an individual ethnic group in their local dialect to reference other groups explicitly, and cross-examined them with publications on new media channels as well as historical symbols, myths and norms. We then sorted the list of search terms under either pro- or anti-Euromaidan movement categories. Notably, only terms that qualify exclusively as exonyms during the duration of the Euromaidan movement were filtered out. Subsequently, in order to substantiate our research, we conducted a series of data analytics on the Twitter archive using the consolidated list of search terms to analyze the significance of negative tweets in rousing violence across different periods of administration in Ukraine. Lastly, we revised the selection of control variables to incorporate not only the traditional components of “hard power” such as GDP, but more importantly, elements of “soft power” encompassing the degree of ethnic polarization to generate a more robust and significant statistical model for our thesis.

III. BACKGROUND: UKRAINE

The Arab Spring seemed to take the world by storm in 2011 illustrated the influence of new media in galvanizing disparate groups to revolt against state authorities. General Gerasimov opines that these events represent how mainstream warfare would be contested going forward, and that the military has to consider the use of non-military means, including foreign intervention through the use of information, to advance national interests and attain strategic goals.⁴⁵

In his address to Russian ambassadors recalled to Moscow in attendance of a meeting to review Russian foreign policy priorities in July 2004, President Putin suggested the establishment of information and cultural centers as a means to protect the interests and rights of ethnic Russians residing in the Commonwealth of Independent States—former Soviet Republics and neighboring states—and Baltic countries.⁴⁶ Reinforced with Russia’s belief that it is constantly under siege from subversive acts from non-aligned opponents, Russia invests all instruments of power to enhance its security and interests.⁴⁷ The expansion in membership for the North Atlantic Treaty Organization since the mid-1990s with considerations to admit Georgia and Ukraine, and the European Union’s integration of Ukraine under its Eastern Partnership initiative as a prelude to Ukraine’s entrance to the Union, only served to enhance the insecurities of Russia.⁴⁸ The Russian identity narrative and its accompanying hopes of securing Ukraine’s participation in the Eurasian Customs Union were under threat. These fueled Russia’s motivations for the construction of what

⁴⁵ Valery Gerasimov, “The Value of Science Is in the Foresight: New Challenges Demand Rethinking the Forms and Methods of Carrying Out Combat Operations,” *Military Review* 96, no. 1 (January 2016), 24–25.

⁴⁶ Fiona Hill, “Moscow Discovers Soft Power,” *Current History* 105, no. 693 (October 2006), 341–342.

⁴⁷ Stephen Blank, “Cyber War and Information War à la Russe,” *Understanding Cyber Conflict: 14 Analogies* (November 2017), 82-85.

⁴⁸ John J. Mearsheimer, “Why the Ukraine Crisis Is the West’s Fault: The Liberal Delusions That Provoked Putin,” *Foreign Affairs* 93, no. 5 (October 9, 2014), 78–80.

Feklyunina coined the “‘Russia World’—an imagined community based on markers of the Russian language, the Russian culture and the common glorious past.”⁴⁹

The ideological struggle in Ukraine presents a classic battleground to analyze the strategies of both Western and Russian influence since the dissolution of the Soviet Union. Over eight million ethnic Russians—approximately 17% of the total population, the second largest group in Ukraine—live predominantly in eastern and southern Ukraine (see Figure 1), and many are strong believers in maintaining the links between countries of East Slavic descent.⁵⁰ On the other hand, ethnic Ukrainians accounting for majority of the country's population, are dispersed across central, northern and western Ukraine (see Figure 2). Juxtaposing the census of these two principal ethnic groups, we were able to identify the regions within Ukraine that possess the greatest ethnic polarization (see Figure 3). These two main ethnic groups often delineate themselves by differing political ideologies, leading to much contention within the country. Therefore, it was not surprising to observe a spike in violent events within regions with high ethnic polarity during the peak of the Euromaidan Revolution.

⁴⁹ Valentina Feklyunina, “Soft Power and Identity: Russia, Ukraine and the ‘Russian World(s)’,” *European Journal of International Relations* 22, no. 4 (December 2016), 791, <https://doi.org/10.1177/1354066115601200>.

⁵⁰ Mikhail A. Molchanov, *Political Culture and National Identity in Russian-Ukrainian Relations* (College Station, Texas: Texas A&M University Press, 2002), 207-208, https://www.researchgate.net/profile/Mikhail_Molchanov/publication/310706407_Political_Culture_and_National_Identity_in_Russian-Ukrainian_Relations/links/5a5e562d0f7e9b4f783ba8ed/Political-Culture-and-National-Identity-in-Russian-Ukrainian-Relations.pdf.

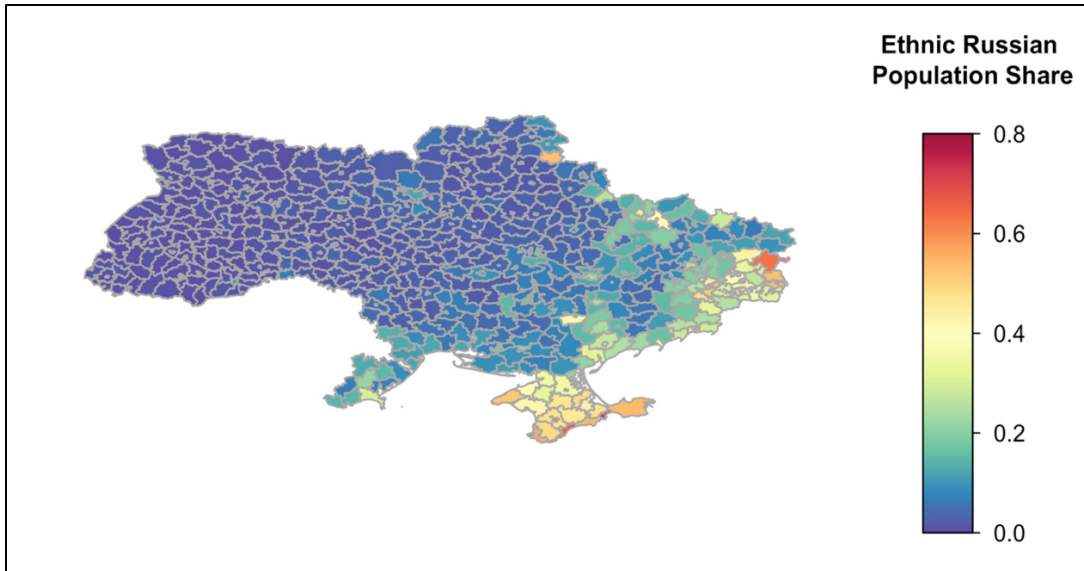


Figure 1. Ethnic Russian Population in Ukraine.⁵¹

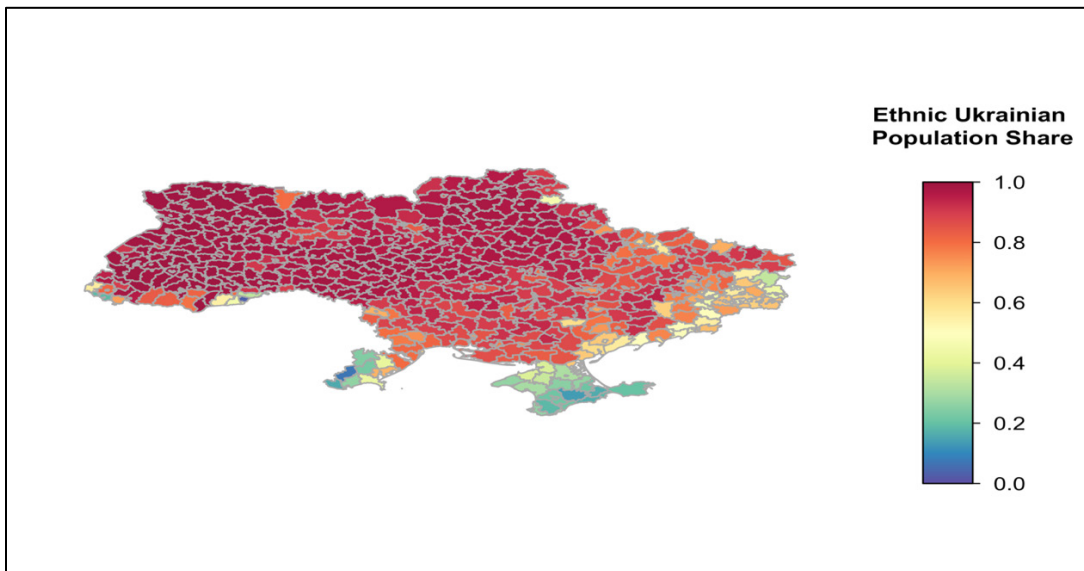


Figure 2. Ethnic Ukrainian Population in Ukraine.⁵²

⁵¹ State Statistics Committee of Ukraine, All Ukraine Census 2001, (accessed Jun 6, 2018), <http://2001.ukrcensus.gov.ua/eng/results/>; Minnesota Population Center. *Integrated Public Use Microdata Series, International: Version 7.1 Dataset*, Minneapolis, MN: IPUMS, 2018. <https://doi.org/10.18128/D020.V7.1>.

⁵² State Statistics Committee of Ukraine, All Ukraine Census 2001; Minnesota Population Center. *Integrated Public Use Microdata Series, International: Version 7.1 Dataset*.

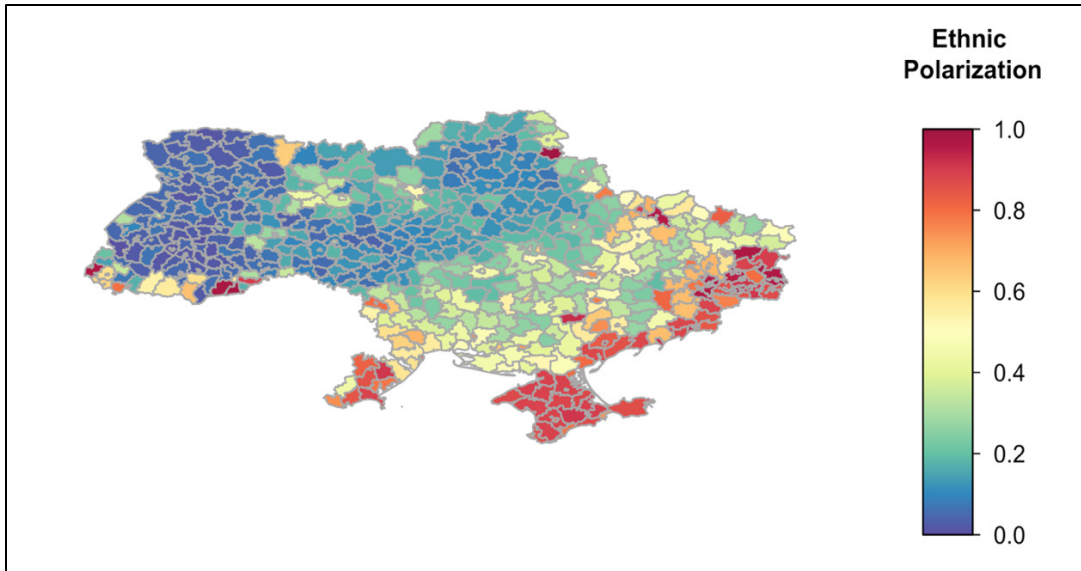


Figure 3. Ethnic Polarization of Population in Ukraine.⁵³

The government of Ukraine and ethnic Ukrainians living in Ukraine, however, remain divided over this issue, leading to the impasse today.⁵⁴ According to independent polls conducted in 2015, 56% of Ukrainians living outside of Crimea and the Donbass region—comprising Donetsk and Luhansk—were keen to negotiate an agreement with the pro-Russian separatists to cease the violence, while ethnic Russians generally prefer the Donbass region to either become independent states (35%) or part of Russia (24%), rather than staying with Ukraine (34%).⁵⁵ This could be the mandate that President Putin and his administration had wanted to support the ongoing conflicts in eastern Ukraine.

The Soviet military is alleged to have researched the practice of reflexive control, a form of psychological "programming"—defined by Thomas as “a means of conveying to a partner or an opponent specially prepared information to incline him to voluntarily make the predetermined decision desired by the initiator of the action”—since the 1960s, with

⁵³ State Statistics Committee of Ukraine, All Ukraine Census 2001; Minnesota Population Center. *Integrated Public Use Microdata Series, International: Version 7.1* Dataset.

⁵⁴ Molchanov, 59-62.

⁵⁵ Jacob Poushter, “Key Findings from our Polls on the Russia-Ukraine Conflict,” Pew Research Center, last modified June 10, 2015, <http://www.pewresearch.org/fact-tank/2015/06/10/key-findings-from-our-poll-on-the-russia-ukraine-conflict/>.

its application extended by Russia to both internal and external politics.⁵⁶ Besides the diplomatic, economic and military maneuvers adopted by Russia, a study of Russia and pro-Russian separatists' usage of lexicons on social media platforms as part of its information campaign to orchestrate civil unrest in Ukraine during the Euromaidan movement in 2013-2014 could glean useful lessons for states weary of external influence. Specifically, the development of a predictive methodology and its accompanying coded algorithms could detect and measure prevalent networks circulating dissent against state authority through data analytics of new media, which in turn could facilitate the adoption of effective early actions by the state authority to neutralize both internal and external influence of the populace to incite violence.

New media, such as social platforms like Twitter, present a potential communication channel that could be exploited by activist groups for both internal and external communication. While Twitter is not the most pervasive social media platform globally, we hypothesized that the distinctive attributes that Twitter offers enhances its propensity to solicit instantaneous, concise and true sentiments from its users, thereby enabling us to conduct a more accurate analysis through the tracking of hashtags and online trends. Populated by billions of tweets posted by users world-wide, the intended meaning of trending messages could be erroneously interpreted through the use of lexicons, and eventually distorted as it disseminates from one user to another. This underlines the importance for the state authority to invest resources in gaining a foothold in communication channels, such as social media platforms, that can be utilized by activists to coordinate and incite violence. Once the baseline predictive methodology and algorithm are developed, it could be scaled and adapted accordingly to any communication channel to measure sentiments for and against the state authority, including influence from external state and non-state actors.

Empirical research on the use of new media to coordinate and incite civil violence has focused predominantly on the contest between local activist groups and the state

⁵⁶ Timothy Thomas, "Russia's Reflexive Control Theory and the Military," *Journal of Slavic Military Studies* 17, no. 2 (June 2004), 238-239, <https://doi.org/10.1080/13518040490450529>.

authority of less developed countries in Africa and the Middle East. This thesis aims to reveal potential plots against the state authority, and glean useful lessons on the utility of social media in predicting violence, with or without foreign intervention, through the analysis of sentiments found in social media data exchanges relating to the Euromaidan movement in Ukraine from 2013 to 2014.

IV. RESEARCH METHODS

Making sense of new media's ability to provoke and manipulate social behavior entails a quantitative approach that sifts through vast amounts of open source data available online to identify networks that produce civil unrest within a specified region. Such studies, especially analytics adopted to measure sentiments, are still in a nascent stage and have been applied almost exclusively to less developed countries in Africa and the Middle East. An extension and adaptation of earlier methodologies to measure sentiments incited from both exogenous and endogenous sources in Ukraine could reveal further evidence of the utility of social media in generating collective violence and lend weight to the hypothesis that the analysis of new media could predict the onset of civil violence.

A. HYPOTHESIS

We hypothesize that the analysis of sentiments through social media data exchanges relating to the Euromaidan movement in Ukraine from 2013 to 2014 could reveal potential plots against the Ukrainian state authority. To validate the claim, predictive algorithms are coded to detect and measure prevalent dissent against the Ukrainian government in native lexicons extracted from Twitter data and overlaid with a geospatial archive of violent events in Ukraine across a parallel time frame in to ascertain its relationship with negative sentiments broadcasted on Twitter.

The Euromaidan movement in Ukraine from 2013 to 2014 saw the change of state administration from pro-Russian—under the helm of then-President Yanukovich till February 21, 2014—to one that is pro-West—under the leadership of President Poroshenko effective May 25, 2014 till the time of this writing—with an interim government leaning towards the West in power between the two periods. We hypothesize that anti-Euromaidan sentiments incite violence while pro-Euromaidan sentiments reduce violence during the window of analysis under the interim government which is pro-West, while only anti-Euromaidan sentiments will continue to trigger conflict under President Poroshenko's administration. We came to this deduction because we believe that both factions had a vested interest in jostling for political power during the interim administrative period as

the exodus of President Yanukovich inadvertently created a power vacuum in Ukraine. Subsequently, after President Poroshenko took office and enacted pro-West policies, it is comprehensible that the pro-Russian faction would raise the ante in an attempt to regain their influence. Lastly, we intentionally omitted the data analysis during President Yanukovich's regime as there were insufficient violent events during this period to generate adequate tests of our hypotheses.

B. DATA AND METHODS

Collecting the relevant data for our research was a complicated process due to various obstacles. Not only were there regulated access to digital information on social media platforms, it was also challenging to ascertain the veracity of digital information. More importantly, our limited linguistic proficiency, as well as the lack of local context, may potentially distort our understanding of the lexicons used. Nonetheless, we made our best effort to consolidate the relevant data sets and designed appropriate analytical methods for our research.

1. Social Media

The data used in the analysis are derived from pre-collected Twitter data from August 2013 to July 2014, comprising three billion messages and 40 terabytes of data in total, licensed by NPS. In order to distill the extensive data and confine it to Ukraine and Russia, we utilized the geographical coordinates of each user's self-proclaimed hometown in their public user profile. A more accurate calibration, employing the GPS coordinates tagged to each Tweet, was not implemented for our quantitative analysis because of the insignificant population of Twitter users who have given permission for Twitter to track and record their physical location. Consequently, we traded a tolerable diminution in geographical precision for a significant increase in volume of Twitter data.

Despite the diverse array of social media platforms that are relevant to this study, such as Facebook, which undisputedly has the largest user population globally and hosts innumerable higher data traffic, we chose Twitter for its more pertinent attributes. Twitter's facile and unrestricted user interface not only encourages its users to promulgate their genuine sentiments instantaneously in response to a specific stimulus, but more

importantly, allows unacquainted users to affiliate with others who share similar opinions through the application of hashtags. In addition, Twitter’s 140 characters limitation compels its users to convey their sentiments concisely, diminishing the prospect of ambiguous Tweets that may distort the veracity of the study. Last but not least, a unique attribute that distinguishes Twitter apart from other social media platforms is the availability of information on its users’ geographic metadata through their home profile, thus enabling us to geospatially determine the location of the tweets and correlate them with the occurrence of violent events.

2. Dissent Lexicon

People commonly disregard formal writing conventions, favoring their own native jargons, dialect or even emoticons, when conveying their sentiments via social media.⁵⁷ The crux of our research hinges on the ability to decipher these foreign linguistic variants in order to establish their true intent. Fortunately, Ms. Marina Cobb, a Subject Matter Expert (SME) faculty member from the Defense Language Institute (DLI), provided the requisite Russian lexicon terms—perceived to be related to the Euromaidan movement—on which the search terms are ran over tweets, hashtags and uniform resource locators (URLs). These Russian lexicon terms are derived from the SME’s knowledge of the Russian language, her familiarity on the issues of social-cultural and lingual identities and language policies during Euromaidan and ongoing Russian-Ukrainian conflicts, and cross-referencing with reports from both traditional and new media. Similarly, Ms. Tanya Clark, also a SME faculty member from the DLI, provided the requisite Ukrainian lexicon terms.

However, an unintended constraint of our analysis is that it only captures a particular social stratum within the entire population. The demographics of social media users consist primarily of affluent and younger city dwellers.⁵⁸ Poor people living in rural

⁵⁷ Nora Al-Twairsh, Hend Al-Khalifa and AbdulMalik Al-Salman, “AraSenTi: Large-Scale Twitter-Specific Arabic Sentiment Lexicons,” in *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, vol. 1, (August 2016), 697; Frost, Evans, and Hodges Jr., 18.

⁵⁸ Barberá and Rivero, 717; Alan Mislove et al., “Understanding the Demographics of Twitter Users,” in *Proceedings of the Fifth International AAAI Conference on Weblogs and Social Media* 11, no. 5 (July 2011), 555-556.

areas often lack funds and infrastructure that supports internet connectivity, and older residents are generally less conversant with modern technology. Nevertheless, we aspire to derive a comprehensive algorithm that is capable of measuring dissent that extends indiscriminately across all ages and regions.

Another concern we had was the potential of incorporating false positives into our regression results with our rudimentary data scraping technique that primarily detects specific lexicons within a predefined dictionary, with limited capacity to distinguish the varying semantics in which they were delivered. Nevertheless, our team's extensive research suggests that the lexicons identified were contextually consistent across all forms of digital media propagation, indicating that the occurrence of such cases would be too rare to appreciably impact the veracity of our results.

C. REGRESSION ANALYSIS

In order to develop the thesis, it was imperative to trawl through relevant databases and tabulate an accurate count of the number of violent events and Euromaidan-related tweets. Consequently, we conducted a geospatial analysis on both variables to determine the correlation between them. The detailed methodology of our regression analysis is illustrated below.

1. Regression Model

A Poisson regression model was designated for the statistical analysis so as to compute the most precise assessment between August 2013 to July 2014. Specifically, the unit of analysis for the regression model was set at the Grid-Cell level, with a grid-cell width of approximately 20 kilometers, cumulating to 2041 cells in total. This method of analysis divides Ukraine's entire territory into regular grid squares, with each side aligning to 0.2° of the earth's longitude and latitude, equating to an approximately 14 x 14 miles for each cell. This level of resolution offers a balance between providing adequate fidelity in

delineating Ukraine's border, while being comprehensive enough to capture sufficient observations for our regression model analysis.

The independent variables chosen were pro- and anti-Euromaidan content within tweets (see **Appendices A and B**), while demographic data that accounts for GDP per capita—GDP and population density—were used as control variables to address a common critique that “hard power” is a better predictor of civil violence than “soft power.” Another control variable selected was the total number of tweets in Ukraine during the period of analysis to account for the influence of total message volume vis-à-vis the tweets containing Euromaidan-related sentiments. Last but not least, we also controlled for the ethnic distribution of the populace as an overwhelming presence of a particular ethnic group within a region may plausibly affect how they interact with provocative propaganda on social media, thus skewing the prospect of violence.

A set of predictive algorithms were coded to detect and measure prevalent dissent against the Ukrainian government in native Russian lexicons extracted from Twitter data and overlaid with a geospatial archive of violent events in Ukraine across a parallel time frame in to ascertain its relationship with negative sentiments broadcasted on Twitter. The Euromaidan movement in Ukraine from 2013 to 2014 saw the change of state administration from pro-Russian—under the helm of then-President Yanukovich till February 21, 2014—to one that is pro-West—under the leadership of President Poroshenko effective May 25, 2014 till the point of writing—with an interim government leaning towards the West in power in between. We built our regression models to examine the latter 2 time frames in order to evaluate social media's correlation with violent events in each distinctive political climate.

2. Dependent Variable

We sourced our data on the timing and location of civil violence events in Ukraine from the Uppsala Conflict Data Program Georeferenced Event Dataset (UCDP GED) Global Version 18.1 (2017). The UCDP is a leading research organization in archiving violent events in order to assist researchers and decision makers with a comprehensive and

systematic dataset on organized violence globally.⁵⁹ The UCDP GED dataset tracks 143,617 violent events where either government forces or another organized entity, strike against another organized actor or civilians, causing at least one fatality at a specific time and place, and between January 1, 1989 and December 31, 2017.⁶⁰

By geo-referencing the deadly events and fatality counts between 2013 and 2014 in Ukraine, we were able to generate heat maps to illustrate the violence and death density in each grid cell (see Figures 4 and 5). This enables us to identify regions of interest for our research that may impact our hypothesis testing. We observed no significant organized violence recorded in Crimea despite its annexation by Russia. Instead, the majority of the deadly events occurred within the Donbass region, while the rest of Ukraine largely remained peaceful during the turbulent periods of the Euromaidan Revolution. However, the models generated do not incorporate an analysis on the escalation of violence preceding the deadly event as the datasets do not include instances of protests or confrontations without an associated report on fatal casualties.

⁵⁹ Uppsala Conflict Data Program, Department of Peace and Conflict Research Database (accessed August 13, 2018), <http://pcr.uu.se/research/ucdp/about-ucdp/>.

⁶⁰ Ralph Sundberg and Erik Melander, "Introducing the UCDP Georeferenced Event Dataset," *Journal of Peace Research* 50, no. 4 (July 2013), 524-525; Mihai Croicu and Ralph Sundberg, "UCDP GED Codebook version 18.1", Department of Peace and Conflict Research, Uppsala University (2017), 2.

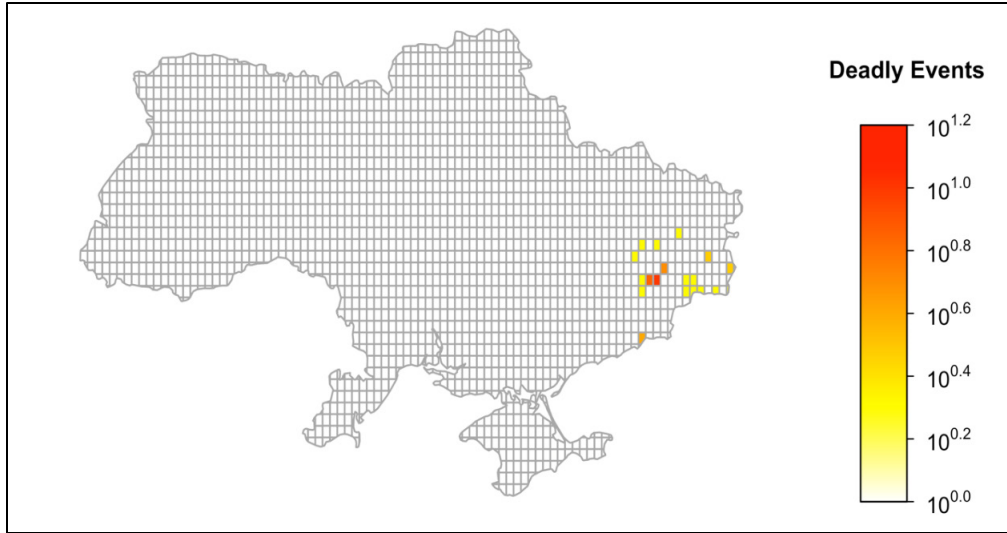


Figure 4. Deadly Events in Ukraine (Grid-Cell).⁶¹

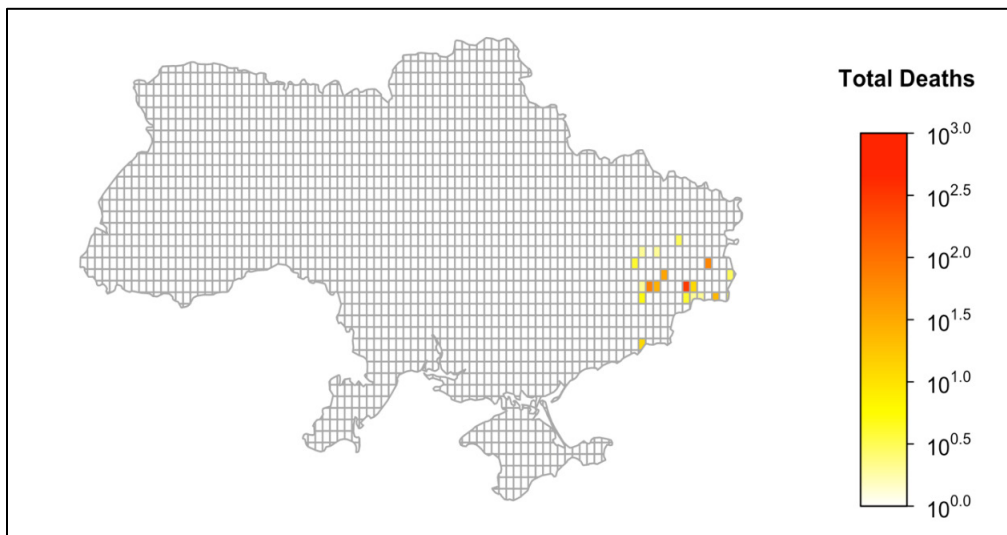


Figure 5. Total Deaths in Ukraine (Grid-Cell).⁶²

⁶¹ Ralph Sundberg and Erik Melander, "Introducing the UCDP Georeferenced Event Dataset," *Journal of Peace Research* 50, no. 4 (July 2013), 523-532.
[http://ucdp.uu.se/downloads/#_utma=1.105434004.1534222653.1534222653.1543347302.2&__utmb=1.10.10.1543347302&_utmc=1&_utmx=-&_utmz=1.1534222653.1.1.utmcsr=ucdp.uu.se%7Cutmccn=\(referral\)%7Cutmcmd=referral%7Cutmctt=/&__utmv=-&_utmik=32854974](http://ucdp.uu.se/downloads/#_utma=1.105434004.1534222653.1534222653.1543347302.2&__utmb=1.10.10.1543347302&_utmc=1&_utmx=-&_utmz=1.1534222653.1.1.utmcsr=ucdp.uu.se%7Cutmccn=(referral)%7Cutmcmd=referral%7Cutmctt=/&__utmv=-&_utmik=32854974).

⁶² Sundberg and Melander, "Introducing the UCDP Georeferenced Event Dataset."

3. Independent Variable

We decided to utilize Twitter feeds in both the Russian and Ukrainian languages stored within the NPS Twitter Archive, between the time period of August 1, 2013 to July 31, 2014, as the independent variable for our thesis. The archive holds a massive 40 terabyte collation of a 10% random sample of all tweets posted during this time frame. Applying the library of both Russian and Ukrainian lexicons, which were catalogued under either pro- or anti-Euromaidan classifications depending on the context of the message which they were sourced from, we trawled through the Twitter archive in the attempt to measure the level of public dissent in Ukraine. This corroborates the analysis between the populace's sentiments in relation to the occurrence of violent events.

Through the illustrations generated (see Figures 6 and 7), we were able to establish that the highest concentration of tweets transmitted in Ukraine centered around Kyiv. This is possibly due to the large aggregation of politically savvy population situated in the capital of the country. The other focal point which accounts for a high density of Twitter feeds is the Donbass region where the conflict is most intense near the border between Ukraine and Russia. Lastly, we observed a sporadic distribution of Twitter volume across municipalities around the country despite the lack of organized violence. This may imply that the influence of social media is not limited by geographical proximity and can impact the propensity for violence in a distant region by propagating grievances through tweets.

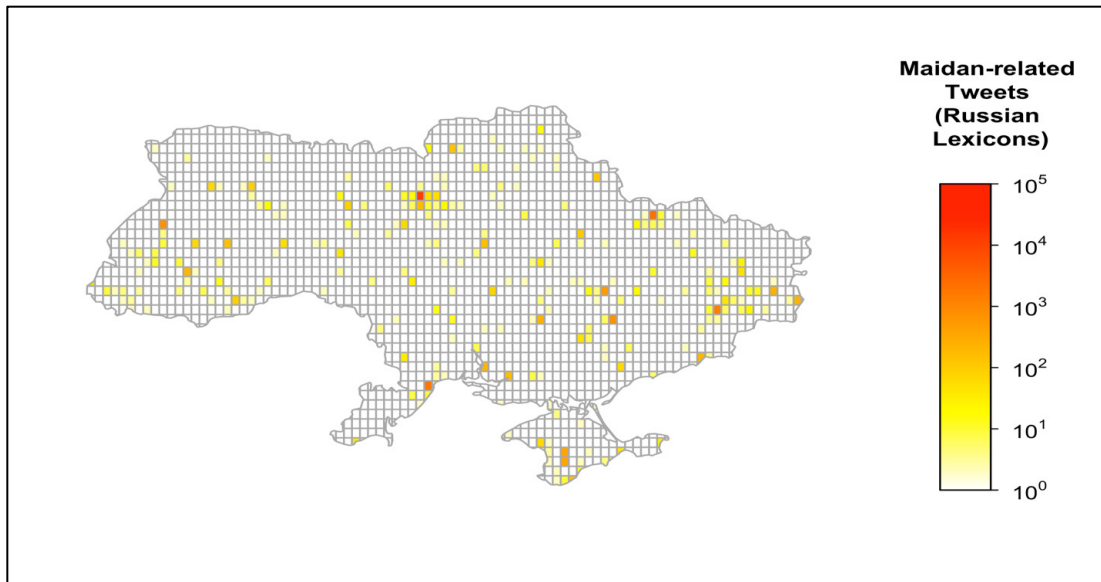


Figure 6. Maida-Related Tweets in Russian (Grid-Cell).

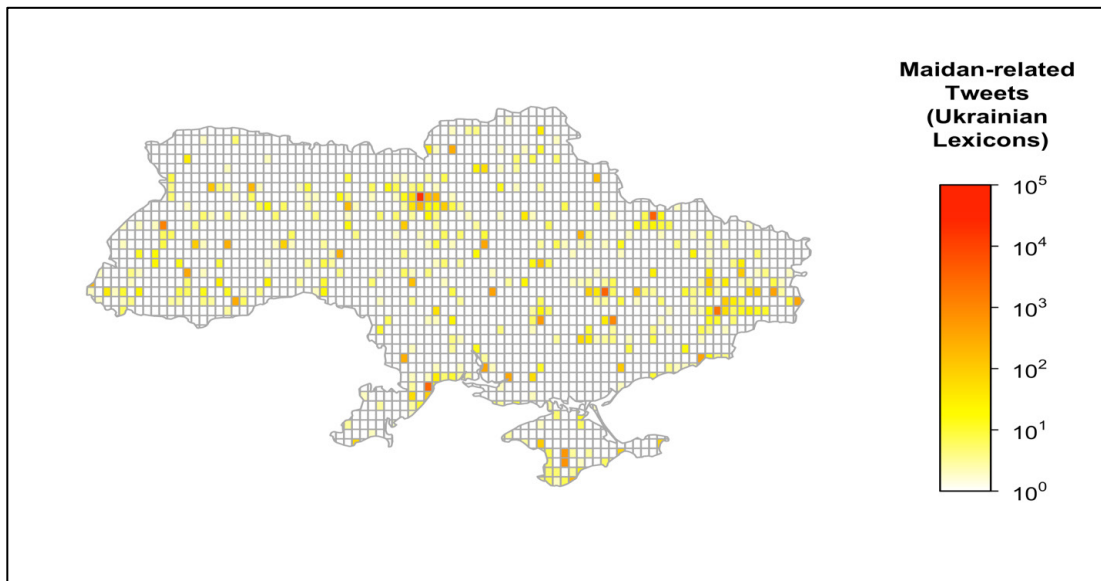


Figure 7. Maida-Related Tweets in Ukrainian (Grid-Cell).

4. Control Variables

a. *Gross Domestic Product Per Capita (GDP Per Capita)*

GDP is commonly used to assess a state’s agility to develop its military, administrative and bureaucratic capacities, so as to control its people through “hard

power.”⁶³ With access to more resources, governments can undermine their adversaries in the contest for political control by either gaining public support through the provision of public services and infrastructure, or coercing citizens into compliance through reinforced policing.⁶⁴ However, by further taking into account population density, we are able to evaluate GDP Per Capita across all regions in Ukraine to have a better understanding of the relationship between the distribution of wealth and the people’s susceptibility to violence. The assumption is that regions with high GDP Per Capita are more peaceful as people are leading better quality lives, and thus have less motivation to manifest their grievances while areas of low GDP Per Capita have insufficient resources to placate the needs of the people, thus leading to an increased desire to change the status quo.

We chose GDP Per Capita as one of our experiment’s control variable in order to counteract any impact of “hard power” on the people. The data was obtained from the G-Econ Project, a publicly available geographically-based economic database compiled by Prof William Nordhaus at Yale University.⁶⁵ We extracted the economic and population data provided in the G-Econ data set, and divided them based on their geospatial tags to identify the mean GDP Per Capita of each grid cell within Ukraine’s borders (see Figure 8). From the diagrams generated, we can observe that the northern regions of Ukraine are more affluent than the rest of the nation. Despite the southern and western districts being more impoverished, there is an absence of deadly events in those corresponding areas. On the contrary, the moderately prosperous Donbass region witnessed the highest density of fatal events. However, this phenomenon was not replicated in the other affluent regions. Therefore, the inverse relationship between economic conditions and propensity for violence is seemingly ambiguous in Ukraine.

⁶³ Fearon and Laitin, 80-81.

⁶⁴ Collier and Hoeffler, 15–17; Jean-Paul Azam, 174–176; Azam and Mesnard, 456–457; Halvard Buhaug, 695–697; Gandhi and Przeworski, 14–15.

⁶⁵ Geographically based Economic Data (G-Econ) Database Version 4.0 (accessed June 3, 2018), https://gecon.yale.edu/sites/default/files/files/gecon_data_20051206_6.pdf.

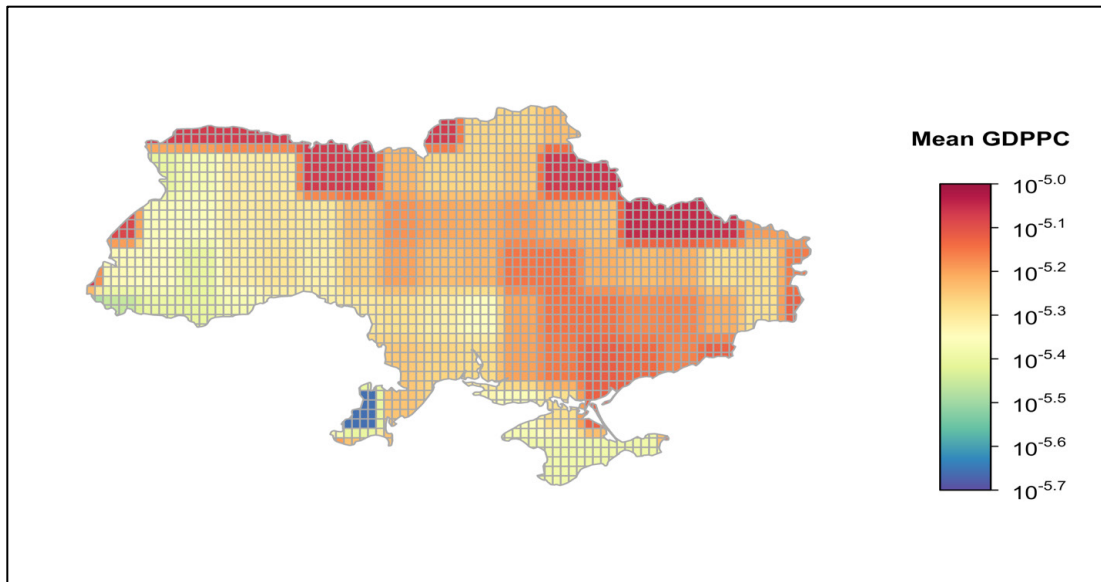


Figure 8. Mean GDP Per Capita in Ukraine (Grid-Cell).⁶⁶

b. Ethnicity

The All-Ukrainian Population Census, scheduled approximately once every ten years, produces a comprehensive series of statistics of the Ukrainian population. It accounts for 48.5 million people situated over 24 administrative regions and 2 special status cities.⁶⁷ Specifically, we focused on the documentation of the various nationalities and ethnic groups residing within Ukraine, and the aggregate proportion of people adopting Ukrainian, Russian, or other mother tongues.⁶⁸

After compiling the latest census data conducted by the Ukrainian government in 2001, we were able to observe the population distribution of ethnic Russians and Ukrainians across the country. The ethnic Russians predominantly congregate at the border zones adjacent to Russia, especially in the Donbass region and Crimea, while ethnic Ukrainians occupy the other western and northern regions of the country (see Figures 9

⁶⁶ Geographically based Economic Data (G-Econ) Database Version 4.0.

⁶⁷ State Statistics Committee of Ukraine, All Ukraine Census 2001; Minnesota Population Center. *Integrated Public Use Microdata Series, International: Version 7.1* Dataset.

⁶⁸ State Statistics Committee of Ukraine, All Ukraine Census 2001; Minnesota Population Center. *Integrated Public Use Microdata Series, International: Version 7.1* Dataset.

and 10). We probed further to appreciate the interaction between both ethnic groups within Ukraine by using the equation derived by Reynal-Querol to quantify the extent of a country's ethnic polarization.⁶⁹ A country experiences ethnic polarization when its population fragments into smaller bands that differentiate themselves based on distinct traits from other groups.⁷⁰ We applied Reynal-Querol's formula to measure the ethnic divide between three major ethnic clusters, namely the native Ukrainians, ethnic Russians and all others within each Ukrainian city. The resultant demographics revealed that the Crimea and Donbass regions possess the highest levels of ethnic polarization within the nation (see Figure 11). Superimposing the demographic data with events in the same time frame, such as the annexation of Crimea by Russia in 2014, and the sporadic organized violence and fatalities occurring in the Donbass region, this seem to indicate that ethnic polarization may have a significant correlation with deadly events occurring in the same area. Therefore, we chose ethnic polarization level as another control variable to offset its effect and better focus our experiment to reveal the true effect of social media.

⁶⁹ José G. Montalvo and Marta Reynal-Querol, "Ethnic Polarization, Potential Conflict, And Civil Wars." *American Economic Review* 95, no. 3 (June 2005), 798.

⁷⁰ Joan-Maria Esteban and Debraj Ray, "On the Measurement of Polarization," *Econometrica: Journal of the Econometric Society* 62, no. 4 (July 1994), 819.

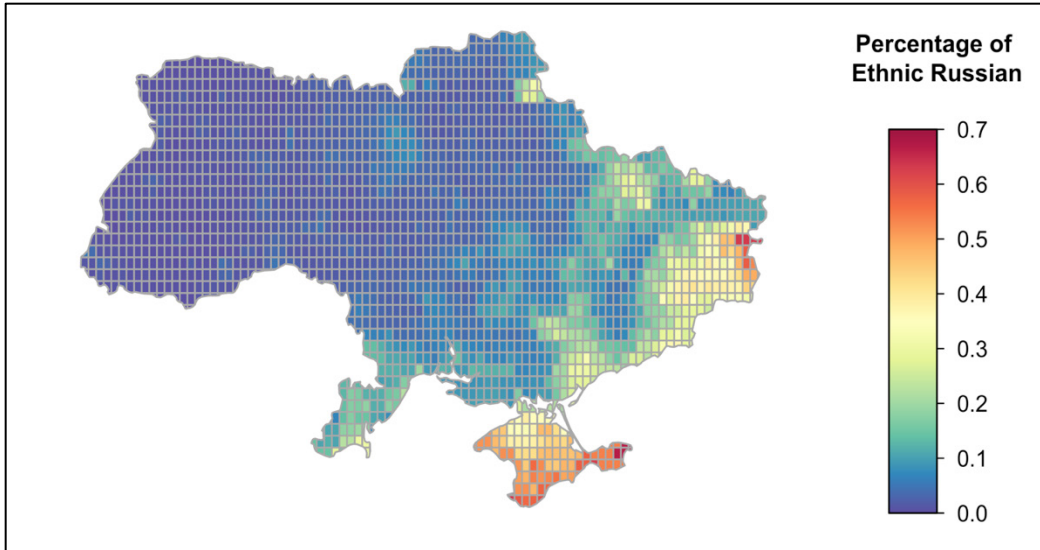


Figure 9. Distribution of Ethnic Russians in Ukraine (Grid-Cell).⁷¹

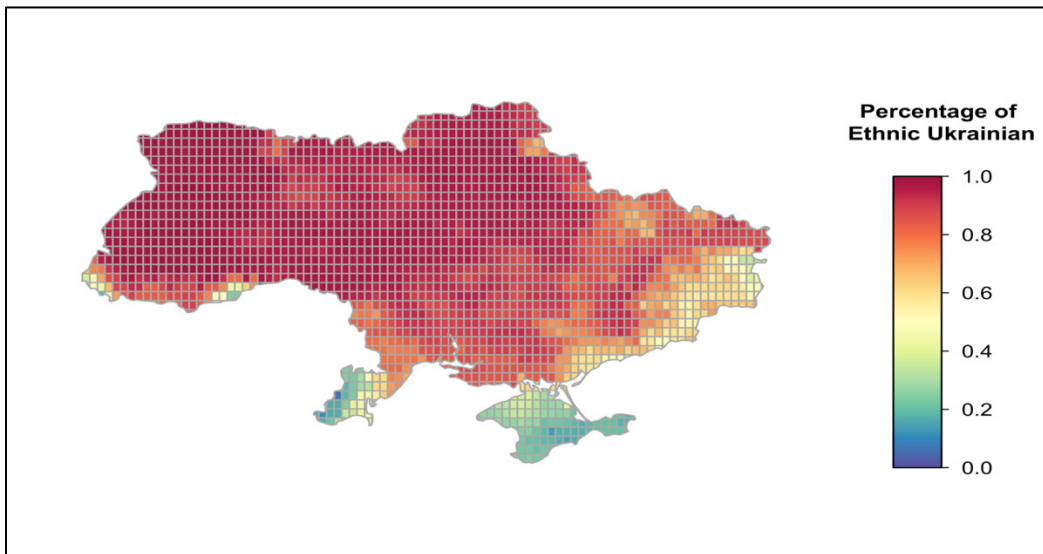


Figure 10. Distribution of Ethnic Ukrainians in Ukraine (Grid-Cell).⁷²

⁷¹ State Statistics Committee of Ukraine, All Ukraine Census 2001; Minnesota Population Center. *Integrated Public Use Microdata Series, International: Version 7.1* Dataset.

⁷² State Statistics Committee of Ukraine, All Ukraine Census 2001; Minnesota Population Center. *Integrated Public Use Microdata Series, International: Version 7.1* Dataset.

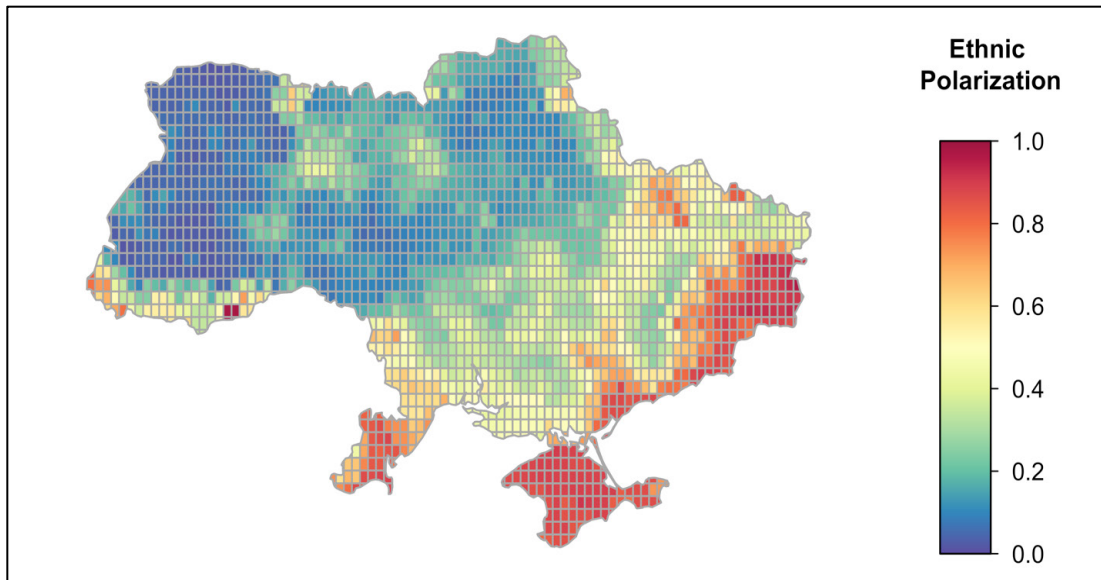


Figure 11. Ethnic Polarization of Ethnic Russians and Ukrainians in Ukraine (Grid-Cell).⁷³

⁷³ State Statistics Committee of Ukraine, All Ukraine Census 2001; Minnesota Population Center. *Integrated Public Use Microdata Series*, International: Version 7.1 Dataset.

V. RESULTS

Six non-linear Poisson regression models are used to examine the predictive relationship between violent events in Ukraine and the prevalent dissent derived from the Twitter network against the Ukrainian government across different periods of administration between August 1, 2013 and July 31, 2014, inclusive. We had hypothesized that anti-Euromaidan sentiments would incite violence while pro-Euromaidan sentiments would reduce violence under the interim government between February 21, 2014 and May 25, 2014, while only anti-Euromaidan sentiments will continue to trigger conflict under the pro-West administration under President Poroshenko effective May 25, 2014. Table 1 captures the regression results for Twitter messages matching search terms in the Russian language. The first and second models in Table 1 demonstrate the relationship between the dependent variable of violent events and the independent variables of pro- and anti-Euromaidan tweets matching Russian search terms under the interim government, and the pro-West administration respectively. The third model in Table 1 demonstrates the same relationship, but across the entire period of analysis from August 1, 2013 to July 31, 2014. Similarly, Table 2 captures the regression results for Twitter messages matching search terms in the Ukrainian language. In addition, six control variables—total volume of tweets, GDP, population density, percentage of ethnic Ukrainians, percentage of ethnic Russians, and degree of ethnic polarization—are applied for all models.

Besides Twitter-derived sentiments metrics, all models in Tables 1 and 2 reveal that both GDP and ethnic polarization could also be significant variables affecting violence in Ukraine. To determine the impact of Twitter-derived metrics on the variation of violence in Ukraine, we generated additional models to compare the impact of the control variables with and without Twitter-derived metrics (see Tables 3 and 4). The first and second models in both Tables 3 and 4 demonstrate the relationship between the dependent variable of violent events and the control variables with and without controlling for total volume of tweets across the entire period of analysis from August 1, 2013 to July 31, 2014 respectively. Similarly, the third and fourth models in Tables 3 and 4 capture the regression results for Twitter messages matching search terms in Russian and Ukrainian language

with and without controlling for total number of tweets across the same time period, respectively.

Table 1. Regression Models (Russian Lexicons)

	<i>Dependent variable:</i>		
	Count of Violent Events		
	Interim Government (1)	Poroshenko Administration (2)	Overall (3)
Total Tweets	0.092 (0.147)	0.109 (0.084)	0.054 (0.065)
Anti-Maidan Tweets (Russian Lexicons)	2.610*** (0.441)	0.720*** (0.209)	1.364*** (0.146)
Pro-Maidan Tweets (Russian Lexicons)	-1.965*** (0.328)	-0.332 (0.217)	-0.755*** (0.142)
Gross Domestic Product	-3.062** (1.341)	-2.702*** (0.724)	-3.209*** (0.597)
Population Density	2.247 (1.457)	2.634*** (0.763)	2.993*** (0.632)
Percentage of Ethnic Ukrainians	36.135** (14.259)	30.439*** (6.398)	30.678*** (5.270)
Percentage of Ethnic Russian	7.078 (7.184)	22.721*** (7.401)	19.610*** (5.340)
Ethnic Polarization	13.833*** (4.032)	8.126*** (2.269)	7.411*** (1.509)
Constant	-66.478*** (23.919)	-66.204*** (11.569)	-70.782*** (9.861)
Observations	2,041	2,041	6,123
Log Likelihood	-59.805	-119.600	-239.293
Akaike Inf. Crit.	137.609	257.200	496.586

Note:

* p<0.1; ** p<0.05; *** p<0.01

Table 2. Regression Models (Ukrainian Lexicons)

	<i>Dependent variable:</i>		
	Count of Violent Events		
	Interim Government (1)	Poroshenko Administration (2)	Overall (3)
Total Tweets	0.755*** (0.210)	0.273** (0.135)	0.304*** (0.107)
Anti-Maidan Tweets (Ukrainian Lexicons)	1.402*** (0.463)	0.585*** (0.203)	0.986*** (0.165)
Pro-Maidan Tweets (Ukrainian Lexicons)	-1.473*** (0.513)	-0.267 (0.277)	-0.519** (0.211)
Gross Domestic Product	-3.487*** (1.260)	-2.656*** (0.711)	-3.070*** (0.574)
Population Density	2.643* (1.373)	2.578*** (0.752)	2.864*** (0.611)
Percentage of Ethnic Ukrainians	37.475** (14.654)	32.139*** (6.705)	32.371*** (5.471)
Percentage of Ethnic Russian	11.993 (7.907)	25.003*** (7.513)	23.316*** (5.543)
Ethnic Polarization	11.580*** (3.616)	7.725*** (2.279)	6.295*** (1.489)
Constant	-72.516*** (23.443)	-66.734*** (11.418)	-70.102*** (9.517)
Observations	2,041	2,041	6,123
Log Likelihood	-74.621	-121.244	-263.675
Akaike Inf. Crit.	167.243	260.489	545.349
<i>Note:</i>		* p<0.1; ** p<0.05; *** p<0.01	

Table 3. Comparison of AIC Scores (Russian Lexicons)

	<i>Dependent variable:</i>			
	Count of Violent Events			
	Control only (1)	Control + Tweets (2)	Overall (3)	Control + Sentiments (4)
Total Tweets		0.431*** (0.033)	0.054 (0.065)	
Anti-Maidan Tweets (Russian Lexicons)			1.364*** (0.146)	1.413*** (0.137)
Pro-Maidan Tweets (Russian Lexicons)			-0.755*** (0.142)	-0.731*** (0.142)
Gross Domestic Product	-3.093*** (0.561)	-2.672*** (0.590)	-3.209*** (0.597)	-3.245*** (0.595)
Population Density	3.193*** (0.578)	2.475*** (0.630)	2.993*** (0.632)	3.032*** (0.628)
Percentage of Ethnic Ukrainians	33.937*** (5.120)	31.440*** (5.642)	30.678*** (5.270)	30.774*** (5.236)
Percentage of Ethnic Russian	24.466*** (4.784)	22.184*** (5.631)	19.610*** (5.340)	19.654*** (5.279)
Ethnic Polarization	6.994*** (1.429)	6.148*** (1.528)	7.411*** (1.509)	7.478*** (1.498)
Constant	-74.599*** (8.810)	-64.651*** (9.774)	-70.782*** (9.861)	-71.264*** (9.806)
Observations	6,123	6,123	6,123	6,123
Log Likelihood	-388.752	-294.328	-239.293	-239.641
Akaike Inf. Crit.	789.504	602.657	496.586	495.282

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 4. Comparison of AIC Scores (Ukrainian Lexicons)

	<i>Dependent variable:</i>			
	Count of Violent Events			
	Control only (1)	Control + Tweets (2)	Overall (3)	Control + Sentiments (4)
Total Tweets		0.431*** (0.033)	0.304*** (0.107)	
Anti-Maidan Tweets (Ukrainian Lexicons)			0.986*** (0.165)	0.802*** (0.155)
Pro-Maidan Tweets (Ukrainian Lexicons)			-0.519** (0.211)	0.006 (0.118)
Gross Domestic Product	-3.093*** (0.561)	-2.672*** (0.590)	-3.070*** (0.574)	-3.209*** (0.574)
Population Density	3.193*** (0.578)	2.475*** (0.630)	2.864*** (0.611)	3.020*** (0.609)
Percentage of Ethnic Ukrainians	33.937*** (5.120)	31.439*** (5.642)	32.371*** (5.471)	32.996*** (5.468)
Percentage of Ethnic Russian	24.466*** (4.784)	22.183*** (5.631)	23.316*** (5.543)	23.454*** (5.427)
Ethnic Polarization	6.994*** (1.429)	6.148*** (1.528)	6.295*** (1.489)	6.623*** (1.463)
Constant	-74.599*** (8.810)	-64.649*** (9.774)	-70.102*** (9.517)	-72.296*** (9.512)
Observations	6,123	6,123	6,123	6,123
Log Likelihood	-388.752	-294.335	-263.675	-267.687
Akaike Inf. Crit.	789.504	602.670	545.349	551.374

Note:

* p<0.1; ** p<0.05; *** p<0.01

The results of the models produced three noteworthy findings. First, models with Twitter-derived sentiment metrics improved the prediction of violent events across Ukraine as reflected by the lower Akaike Information Criterion (AIC) scores. This reinforces our belief that the selection of exonyms in native languages as search terms on Twitter contributed significantly to the derivation of a metric reflective of the dissents against the Ukrainian government. Second, there is statistical evidence to suggest a significant correlation between violent events and Twitter-derived sentiment metrics against the Ukrainian government across different periods of administration. This is consistent with our claims that anti-Euromaidan tweets should incite violence under both the interim and pro-West authorities, while pro-Euromaidan tweets could reduce violence under the West-leaning interim authorities. Third, future researchers should consider the impact of ethnic polarization on violence. There is statistical evidence to suggest a significant correlation between violent events and degree of ethnic polarization.

A. FINDING ONE: TWITTER-DERIVED METRICS IMPROVES PREDICTION OF VIOLENT EVENTS

Twitter-derived sentiment metrics improves the prediction of violent events in Ukraine from August 1, 2013 to July 31, 2014. Without the Twitter-derived metrics (see Tables 3 and 4, first model), the regression returns a significant correlation between violent events in Ukraine and the variables of GDP, population density, percentage of ethnic Ukrainians, percentage of ethnic Russians, and degree of ethnic polarization. Accounting for total number of tweets (see Tables 3 and 4, second model), the regression continues to return a significant correlation between violent events in Ukraine and all variables, including total number of tweets at a lower AIC score. With the incorporation of Twitter-derived sentiments metrics (See Tables 3 and 4, third model), the regression model returns an even lower AIC score. Specifically for Table 3, which utilized Twitter-derived sentiments metrics generated from Russian lexicons, the relationship between violent events in Ukraine and the total number of tweets is no longer significant (See Table 3, third model). Notably also for Table 3, the removal of the total number of tweets as a control variable returns the lowest AIC score (See Table 3, fourth model).

Unlike the Twitter-derived metrics generated from Russian lexicons, Twitter-derived sentiments metrics generated from Ukrainian lexicons did not render the total volume of tweets statistically insignificant (See Table 4, third and fourth models). Certain lexicons may have been misinterpreted or omitted due to our lack of local context. Alternatively, negative sentiments toward the Ukrainian government may not always lead to violent events. Peaceful demonstrations or protest could have been incited by the negative sentiments circulated on Twitter, or clashes between groups and the state authorities may not have resulted in death, and are thereby not captured by our dataset.

B. FINDING TWO: THERE IS A SIGNIFICANT CORRELATION BETWEEN TWITTER-DERIVED SENTIMENT METRICS AND VIOLENT EVENTS IN UKRAINE

Twitter-derived sentiment metrics improves the prediction of violent events in Ukraine across different periods of administration in Ukraine. Consistent with our hypothesis, anti-Euromaidan tweets should incite violence under the interim and pro-West authorities, while pro-Euromaidan tweets could reduce violence under the West-leaning interim authorities. The choice of search terms impacts the authenticity and usefulness of the Twitter-derived sentiment metrics. To quantify the significance of social media in inciting violence during the Euromaidan movement in Ukraine, we systematically examined terms used exclusively by the in-group against the out-group—sorted exclusively under pro- or anti-Euromaidan movement categories—and cross-examined them with publications on new media channels as well as historical symbols, myths and norms. We limited the terms to be exclusively in the Russian and Ukrainian language to match the unique demographics in Ukraine. We believe this contributed significantly to the usefulness of the accompanying Twitter-derived sentiment metrics, further improving the prediction of violent events in Ukraine across different periods of administration in Ukraine.

To substantiate our claims, we generated regression plots (see Figures 12 and 13) to reflect the correlation between violent events in Ukraine from August 1, 2013 to July 31, 2014 as reflected by the third model in Tables 1 and 2.

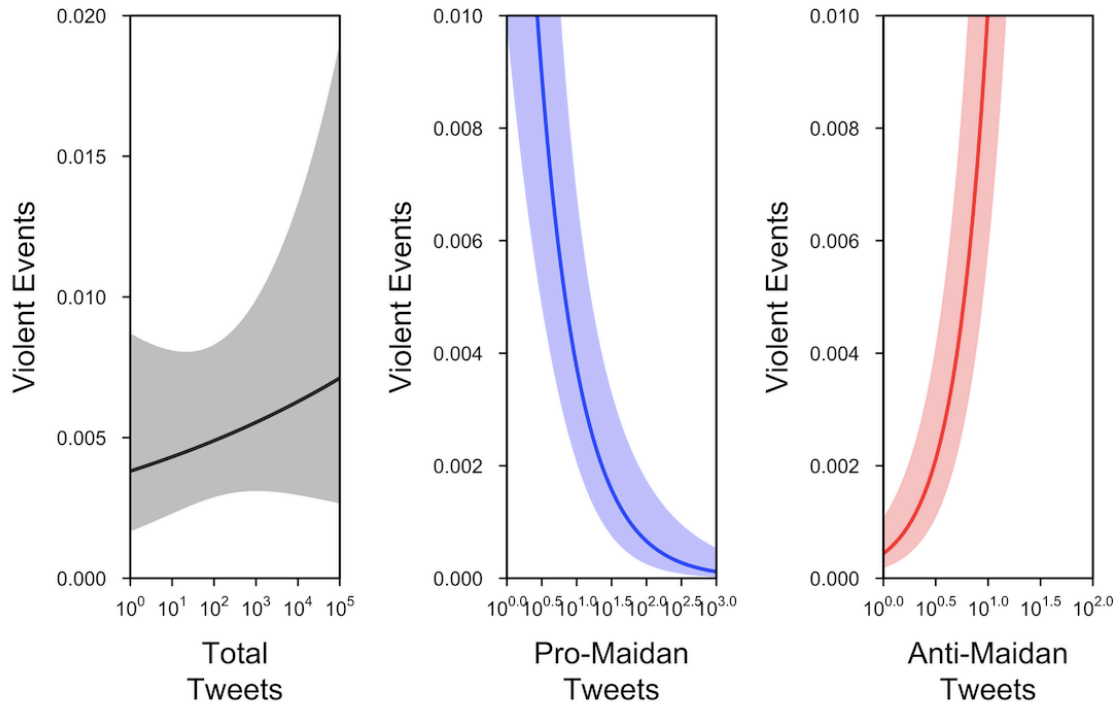


Figure 12. Regression Plots (Russian Lexicons)

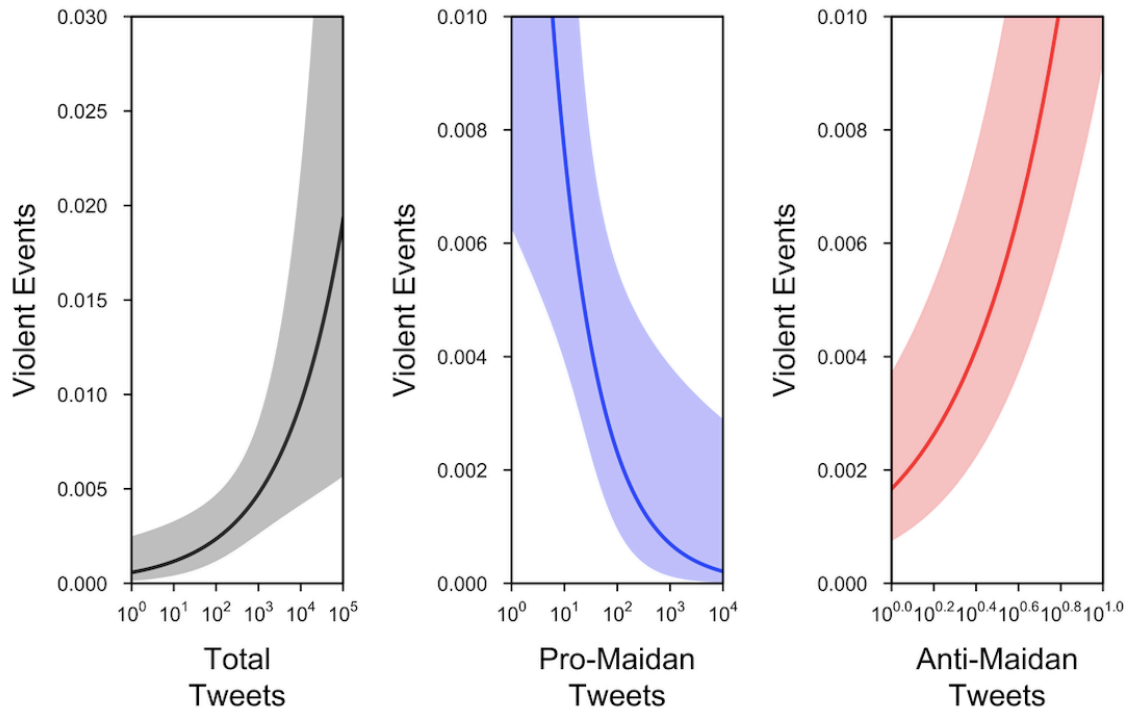


Figure 13. Regression Plots (Ukrainian Lexicons)

The visualizations of the regression plots reflect the statistical significance of each independent variable on the dependent variable (*Violent Events*) while holding all other variables in the model constant at their mean values. Through the visualization, we are able to isolate the independent variables and understand its predicted effect on the rise of violent events in Ukraine. The y-axis on each graph is the predicted outcome in terms of number of violent events in a grid cell, while the x-axis shows the shift in each independent variable from its minimum to maximum value. The respective prediction lines—black for total volume of tweets, blue for volume of pro-Euromaidan tweets, and red for volume of anti-Euromaidan tweets—show how the expected number of *Violent Events* change as a function of the independent variables, with the slope of the line demonstrating either a positive or a negative relationship of the independent variables in relation to *Violent Events*. The shaded portions around the prediction lines represent the 95% confidence interval of the prediction.

Using Figure 12 as an illustration, both *Total Tweets* and *Anti-Euromaidan Tweets* exhibit positive relationships to *Violent Events*, while *Pro-Euromaidan Tweets* exhibits a negative relationship to *Violent Events*. Given the statistical significance between the number of violent events and Twitter-derived sentiment metrics against the Ukrainian government across different periods of administration, coupled with low standard errors, we can conclude with confidence that there is a strong positive correlation between number of violent events in Ukraine and Twitter-derived sentiments metrics.

C. FINDING THREE: ETHNIC POLARIZATION MAY IMPROVE THE PREDICTION OF VIOLENT EVENTS

With Twitter-derived metrics and controlling for ethnicity alone (See Tables 5 and 6, first model), we can conclude that there is a statistically significant relationship between violent events and ethnicity from August 1, 2013 to July 31, 2014. However, we observe that both a positive correlation between violent events and the presence of both high percentages of ethnic Ukrainians and ethnic Russians. Hence, we controlled for the degree of ethnic polarization by factoring in the Reynal-Querol equation (See Tables 3 and 4, second model) to categorize and measure the ethnic divide between three clusters based on

their native ethnicity—ethnic Ukrainians, ethnic Russians, and native locals who are neither of Ukrainian nor Russian decent.

Table 5. Comparison of AIC Scores (Ethnic Polarization, Russian Lexicons)

	<i>Dependent variable:</i>		
	Count of Violent Events		
	Ethnicity only (1)	Ethnic Polarization (2)	Overall (3)
Total Tweets	0.120* (0.063)	0.086 (0.064)	0.054 (0.065)
Anti-Maidan Tweets (Ukrainian Lexicons)	1.263*** (0.135)	1.279*** (0.133)	1.364*** (0.146)
Pro-Maidan Tweets (Ukrainian Lexicons)	-0.773*** (0.129)	-0.760*** (0.127)	-0.755*** (0.142)
Gross Domestic Product			-3.209*** (0.597)
Population Density			2.993*** (0.632)
Percentage of Ethnic Ukrainians	36.458*** (5.630)	25.380*** (5.143)	30.678*** (5.270)
Percentage of Ethnic Russian	38.102*** (4.525)	16.046*** (5.009)	19.610*** (5.340)
Ethnic Polarization		7.130*** (1.542)	7.411*** (1.509)
Constant	-32.145*** (3.992)	-26.089*** (3.610)	-70.782*** (9.861)
Observations	6,123	6,123	6,123
Log Likelihood	-273.381	-261.585	-239.293
Akaike Inf. Crit.	558.762	537.170	496.586

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 6. Comparison of AIC Scores (Ethnic Polarization, Ukrainian Lexicons)

	<i>Dependent variable:</i>		
	Count of Violent Events		
	Ethnicity only (1)	Ethnic Polarization (2)	Overall (3)
Total Tweets	0.391*** (0.101)	0.345*** (0.104)	0.304*** (0.107)
Anti-Maidan Tweets (Ukrainian Lexicons)	0.929*** (0.165)	0.909*** (0.163)	0.986*** (0.165)
Pro-Maidan Tweets (Ukrainian Lexicons)	-0.603*** (0.204)	-0.552*** (0.205)	-0.519** (0.211)
Gross Domestic Product			-3.070*** (0.574)
Population Density			2.864*** (0.611)
Percentage of Ethnic Ukrainians	37.412*** (5.956)	27.467*** (5.547)	32.371*** (5.471)
Percentage of Ethnic Russian	39.152*** (4.747)	19.403*** (5.356)	23.316*** (5.543)
Ethnic Polarization		6.459*** (1.539)	6.295*** (1.489)
Constant	-33.076*** (4.215)	-27.662*** (3.879)	-70.102*** (9.517)
Observations	6,123	6,123	6,123
Log Likelihood	-295.552	-285.780	-263.675
Akaike Inf. Crit.	603.104	585.561	545.349

Note:

* p<0.1; ** p<0.05; *** p<0.01

While the statistical evidence suggests that the correlation between violent events in Ukraine from August 1, 2013 to July 31, 2014 and both the presence of high percentages of ethnic Russians and ethnic Ukrainians remain statistically significant, the incorporation of the Reynal-Querol equation as a control reveals that the correlation between violent events and degree of ethnic polarization is also statistically significant, with a better AIC score. To substantiate our claims, we generated a regression plot (see Figure 14) to visualize the correlation between violent events in Ukraine and the degree of ethnic polarization.

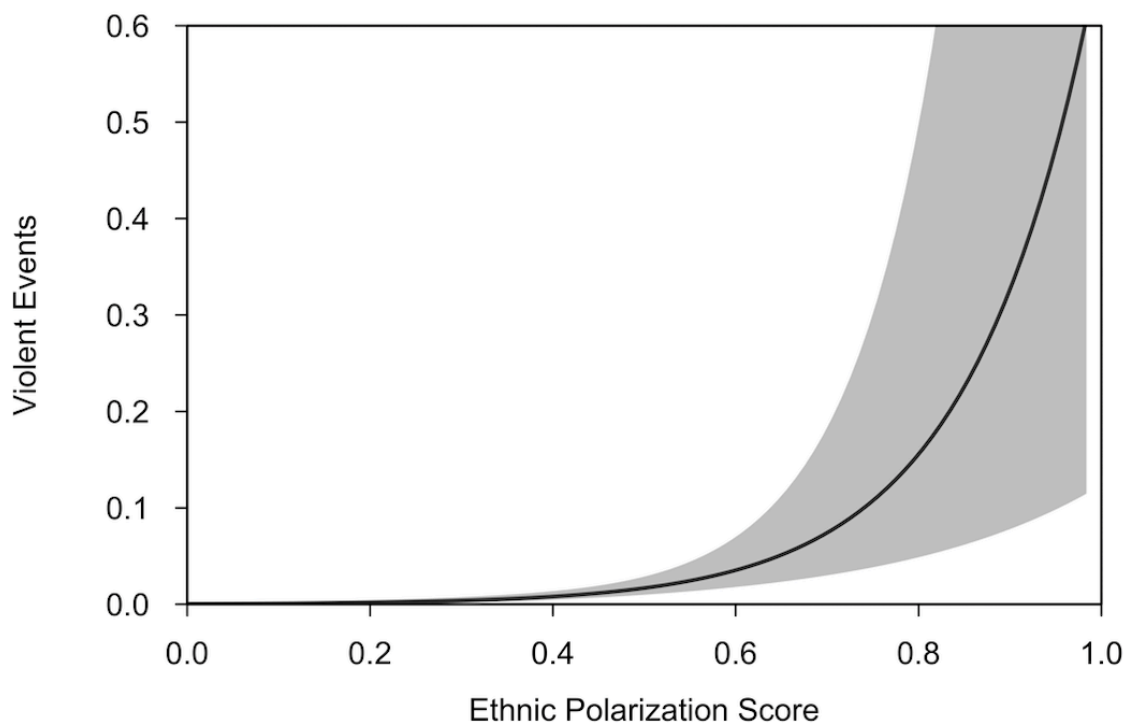


Figure 14. Regression Plot (Ethnic Polarization)

In Figure 14, the black prediction line shows the expected number of *Violent Events* change as a function of the shift in *Ethnic Polarization Score*. The slope of line demonstrates a positive relationship of *Ethnic Polarization Score* in relation to *Violent Events*. The shaded portions around the prediction line represents the 95% confidence interval of the prediction. As such, we can conclude with confidence that there is a strong positive correlation between number of violent events in Ukraine and the degree of ethnic polarization.

VI. CONCLUSION

Our thesis began with our curiosity about social media's influence over social behavior, especially in regions burdened by perennial contentions within the population. We committed ourselves to pursue this analysis because this specific area of research is still in a nascent stage, and focused predominantly on selected countries of critical political interest. We attempted to venture beyond the boundaries of earlier studies by approaching our thesis from a different perspective by stressing on the degree of ethnic polarization, as well as the interaction between groups through unique exonyms conceived on social media. We hypothesized that through social media data analysis, we would be able to draw a correlation between the virtual propagation of public sentiments and the physical manifestation of violent predispositions, and thus generate a credible prediction model for the onset of civil violence.

Through our research, we found that the traditional concept of utilizing “hard power” to exert the state's dominance has gradually been undermined by the exploitation of “soft power.” Divisive propaganda disseminated on social media platforms have increasingly become more effective in establishing new social norms and inducing organized collective action to achieve a desired outcome by the promulgators. The unique challenge of our analysis was to determine a fitting method to precisely locate and measure true sentiments found on social media in both foreign Russian and Ukrainian languages to be factored into the algorithm.

To construct our statistical models, we mapped out the dependent variable, occurrences of civil violence across Ukraine, consolidated from the UCDP database against the independent variable, pro- and anti-Euromaidan lexicons, found on pre-collected Twitter data licensed by NPS. In order to increase the robustness of our models, we further controlled the experiment for both “hard power” and “soft power” variables such as Ukraine's GDP Per Capita level captured by the G-Econ Project, and its ethnic polarization index, derived through data from the All-Ukrainian Population Census.

In conclusion, our thesis resulted in three noteworthy findings. Firstly, statistical evidence suggests that Twitter-derived metrics improves the prediction of violent events against the Ukrainian government across different periods of administration. Secondly, there is statistical evidence to suggest a significant correlation between violent events and Twitter-derived sentiment metrics against the Ukrainian government across different periods of administration. Last but not least, there is statistical evidence to suggest a significant correlation between violent events and degree of ethnic polarization, given the presence of negative dissent against the Ukrainian government. The findings support our initial hypothesis, thus reinforcing our belief that the selection of exonyms in native languages as search terms on Twitter contributed significantly to the derivation of a metric reflective of the dissents against the Ukrainian government.

A. RECOMMENDATIONS

The intent for our thesis is not only to illustrate social media's capacity to be exploited for inciting collective violence, but more importantly, to provide a framework that accentuates the utility of “soft power” in sound governance. Through the results of our models, we find that ethnic polarization is a significant variable that enhances the correlation between negative social media sentiments and violence. It may be beneficial for state authorities to track settlement patterns of major ethnic groups within the country, and incentivize greater assimilation and movement within the population in order to disperse concentrations of ethnic groups within a specific region.

In addition, state administrations that are confronted with budding social unrest in their country, can harness the power of social media data analysis to obtain early warning, and potentially adopt preemptive actions to mitigate the consequences. In light of the increasing role that social media plays in modern political activism, governments should invest in a national cyber information and strategic communication task force that has the capacity to undertake three critical missions. First, they must be able to closely monitor the pulse of the populace’s sentiments through various forms of social media channels. Next, they must be able to design a cyber-trawling algorithmic tool to make sense of the data collated to detect early indicators of potential violent outbreaks in specific locations.

Lastly, they must be able to develop counter-narratives and strategic communication policies to foster pro-government support while mediating any potential political opposition before the onset of collective violence.

B. ADDITIONAL RESEARCH

During the course of our research, we have identified some areas of interest that future studies could delve into. First and foremost, our thesis only took into account violent events consolidated by the UCDP database, which only tracks conflicts that result in one or more death between government forces and organized entities. This data set does not include all other cases of conflict such as peaceful demonstrations or violent protests that do not result in any fatalities. By incorporating these events, the number of observations significantly increases over the designated time frame, therefore reinforcing the data analysis to derive a stronger correlation between the independent and dependent variables.

Another limitation that our thesis faced was the inadequate access to the wide spectrum of social media databases due to proprietary issues. We relied primarily on the Twitter archive licensed by NPS to collate our independent variable. Other theses should explore the prospect of trawling data from other open source social media platforms, such as Facebook, to establish a linkage with a more extensive user population when conducting similar analysis consequently. Moreover, due to our linguistic deficiency in both Russian and Ukrainian language, we had to seek assistance from SME faculty members at the DLI to create the library of lexicons. Despite their linguistic proficiency and the extensive effort devoted to the scholastic research, certain lexicons may be misinterpreted or omitted due to the lack of local context. A more comprehensive and accurate library of lexicons could be built with the consultation of local activists and government officials.

In addition, future studies can also attempt to dissect the independent variable further by applying the library of both Russian and Ukrainian lexicons under the various sub-categories instead of just the binary pro- and anti-Euromaidan classifications we used for our analysis. By doing so, they can better pinpoint the determinant category of lexicons that incite violence within the larger classifications. Furthermore, other forms of social

demographic data, such as education level and age group, can be included as control variables in order to create a more robust statistical model.

Furthermore, with recent cyber advancement, it is increasingly challenging to discern between tweets originating from humans and computer bots. It is evident that some political entities have invested heavily in cyber technology that can masquerade as passionate human activists fighting for, or against, social issues of the agent's predisposition. Consequently, we faced the challenge of discerning between true human tweets and those promulgated by computer bots. Future research could design a more astute code to flag out the false tweets from the data set and incorporate a social network analysis to ascertain the central actors that the tweets originate from.

Last but not least, it is essential to see whether the results of our thesis can be replicated in other countries. Future research should shift their attention onto other regions around the world that are undergoing parallel social conflicts. By applying a similar data analysis, we would be able to compare and contrast the results, thus revealing if our model only works on a specific region and event, or that it has a more versatile utility that can aid other state administrations to better exercise “soft power” for sound governancethis page intentionally left blank

APPENDIX A. LIST OF RUSSIAN LEXICONS

A. PRO-EUROMAIDAN TERMS

1. President Yanukovich-Related Terms

S/No.	Key	Terms	Explanation
1	Yanyk	Янык	Abbreviation of last name
2	Yajtsevich	Яйцевич	Blending of name and obscene word, at the same time a reference to the famous 2004 "egg incident" in Ivano-Frankivsk, when an opposition activist threw an egg at Yanukovich causing him to fall
3	Yanukriminalovich	Янукриминалович	Blending of name and "criminal" referring to his criminal past
4	Bandyukovich	Бандюкович	Blending of name and "banda" (gang)
5	Proffesor	Проффесор	Intentional misspelling of "Professor", a spelling error Yanukovich allegedly had made when writing down his occupation
6	Yanukodlovich	Янукодлович	Blending of name and common derogatory word
7	Yanukovosch	Януковощ	Blending of name and "vegetable" to indicate lack of thinking ability
8	Yalynkovich	Ялынкович	Blending of name and possibly Ukrainian word for "fir tree," mocking incident in which he mis-pronounced said word and attempt to dissolve crowd of Maidan protesters under the excuse of setting up New year tree in the main city square (Maidan)
9	Yanushesku	Янушеску	Blending of name and Ceausescu, deposed Romanian dictator
10	Yanuko_vich	Януко-ВИЧ	Highlighting VICH at the end of his name which is an abbreviation for Human Immunodeficiency Virus
11	Chivokunya	Чивокун	His name backwards, happens to produce a comical effect, sounds cute and funny but is minimizing and conveys condescension
12	Yalegitimnyj	Ялегитимн	Blending of name and "legitimate" referring to his claims of legitimacy which sounds like "I am legitimate" because "Ya" means "I" in Russian
13	Pidareshit	Пидарешт	Expressing desire to see Yanukovich under arrest

S/No.	Key	Terms	Explanation
14	Megazhirye	Мегажирь	Blending of "Mezhigorye," former Presidential residence and "mega-fat" to indicate over-the-top luxury
15	Bykoko	Быкоко	Deliberate distortion of "rococo" to refer to style of gaudy luxury, derived from (bull) invoking association with cattle
16	Mezhizverye	Межизверь	Blending of "Mezhigorye," former Presidential residence, and "beasts/barbarity" to indicate cruelty
17	Urkaina	Уркаин	Deliberate transposition of letters in the spelling of Ukraine to make it sound like the land of "urka" (criminals). This term may be used by anti-Maidan/anti-Ukrainian movement at the present time as well
18	Mizdobuli	Миздобули; МиЗдобули	Slightly altered Ukrainian for "We have achieved/done/accomplished" to refer to fake claims of accomplishments by the regime

2. UK Parliament-Related Terms

S/No.	Key	Terms	Explanation
19	Zrada	Зрад	Referring to Rada by a similarly sounding Ukrainian word that means "betrayal". It could also be used in all kinds of contexts unrelated to Rada. However, a hashtag was created referring to unfavorable decisions made by Rada, so an increased usage of this word suggests a reference to Ukrainian legislature, rather than unrelated instances of "betrayal", for example, in relationships and other contexts
20	Кнопкодaв	Кнопкодав	"Button-presser," lawmaker who obediently follows Yanukovich's will in voting
21	Zekon	Зэкон	Law passed by a "incarcerated"/"criminal" which is a commonly used colloquialism originating from the first letters of the Russian word for "incarcerated"; referring to criminality of Ukrainian lawmakers and Yanukovich's past criminal record
22	Pakhanat	Паханат	From criminal/jail argot term "head of a gang," prison authority figure. Pakhanat is a regime where the highest-ranking criminal authority figures are in charge

S/No.	Key	Terms	Explanation
23	Aziriv	АзириВ	Deliberate Ukrainization/distortion of the name of former Prime Minister of Ukraine Azarov who was known for distorting Russian words in an attempt to make them sound Ukrainian to compensate for his lack of competency in the Ukrainian language
24	Azirivka	АзириВК	The language of Azarov (see above)
25	Bloodsuckers	КрОВОСИС	Infamous example of Azirivka (see above) when Azarov modified the Russian word "bloodsuckers" attempting (and failing) to make it sound Ukrainian
26	Tridebilling	ТриДеБилиНГ	Blending of "three" and "imbecile", reference to appearance of Yanukovych and two other former Ukrainian politicians (Zakharchenko and Pshonka) in the Russian city of Rostov where they claimed they were the legitimate authority
27	Banduget	БАНДУ ГЕТЬ; БАНДУГЕТЬ	Ukrainian "_____" (meaning "down" or "out" with something) incorporated into this slogan that calls for doing away with Yanukovych's corrupt regime
28	Panduget	ПАНДУ ГЕТЬ; ПАНДУГЕТЬ	Same as above but "banda" (gang) changed to "panda"

3. Anti-Euromaidan Forces-Related Terms

S/No.	Key	Terms	Explanation
29	Titushka	Титуш	Derogatory reference to athletic young men bussed in from Russia to provoke and intimidate Maidan protesters; originated from Titushko, last name of the youth identified as the perpetrator of an infamous beating of journalists, later came to denote other uses of deliberate deceit and provocation, especially by paid agents
30	Prostitushka	Проституш	Blending of "titushka" and prostitute (see above)
31	Tritushka	Тритуш	Politicians; blending of "titushka" and the Russian word for "three", sarcastic reference to three opposition leaders (Yatsenyuk, Klichko and Tyagnibok) for their initial indecisiveness and attempts to negotiate with Yanukovych

S/No.	Key	Terms	Explanation
32	Rostitushka	Роституш	Blending of "titushka" and Rostov (city in Russia) where Titushko (see above) who became a symbol of use of quasi-criminal element for hire against Maidan originally came from (was bussed in with a group of rough athletic youths)
33	Titushkobus	Титушкобус	Bus filled with rough athletic Russian young men like Titushko (see above) brought in to intimidate pro-Maidan protesters
34	Titushkovod	Титушковод	One who coordinates (leads, pulls the strings of) youths like Titushko (see above)
35	Mentushka	Ментуш	Blending of "titushka" and "ment", pejorative form of "militiaman" (old Soviet term for "policeman")
36	Bitushka	Битуш	Blending of "titushka" and "to beat"; individual used/hired to beat up protesters

4. UK Special Forces-Related Terms

S/No.	Key	Terms	Explanation
37	Berkutnya	Беркутн	Pejorative (collective noun) form of "Berkut"
38	Berkutyata	Беркутят	"Berkut" chicks (as in young eagle chicks), sounds minimizing and condescending ("berkut" is a kind of eagle)
39	Ptentsy	Птенц	"Chicks, little birdies", condescending reference to "Berkut"
40	Poultryfactory	Птицефабрик	"Poultry factory", reducing eagles to poultry, another condescending reference to Berkut or a place where they congregate

5. Russian Media-Related Terms

S/No.	Key	Terms	Explanation
41	Teletitushka	Телетитуш	Blending of tele- (TV) and titushka (see "titushka")
42	Kiselevschina	Киселевщин; Киселёвщин	Dishonest reporting phenomenon named after Kiselev, a Russian TV anchor

S/No.	Key	Terms	Explanation
43	Kiselevosti	Киселёвост; Киселевост	Blending of Kiselev and news; news delivered by or "a la" Kiselev (see above)
44	Kisel TV	Кисель-ТВ	Reduced form of Kiselev's last name (which happens to be the name of a common traditional Russian starchy beverage) plus TV (i.e., TV Kiselev-style)
45	Kiselev_viewer	Киселезрител	TV viewer who watches Kiselev show
46	Nevroshovinist	Нейрошовинист	Neurochauvinist
47	Shkurnalist	Шкурналист	Blending of "skin", also "dishonest person" and journalist, implies dishonest journalist for hire
48	Obosrevatel	Обосревател	Blending of "observer" (as in "political observer") and an obscene word
49	Journalizd	Журнализд	Blending of "journalist" and a vulgar reference
50	Journa_slut	Журнашлюх	Blending of "journalist" and "slut"
51	Telefascism	Телефашизм	Implies that media promotes fascism
52	Mediafreniya	Медиафрени	Blending of "media" and "schizophrenia"
53	Propagandist	Пропагандон	Blending of "propaganda" and an obscene word
54	Virtitushka	Виртитуш	Virtual "titushka", unscrupulous person for hire who operates in the virtual world
55	Ayteetushka	Айтитуш	IT-titushka, unscrupulous person for hire who operates via technology
56	Kremlin_bot	Кремлебот	Entity serving the Kremlin in media/social media

6. President Putin-Related Terms

S/No.	Key	Terms	Explanation
57	Khaputin	Хапутин	Blending of "Putin" and the verb meaning "to grab, take by force or unlawfully"
58	Kaputin	Капутин	Blending of "Putin" and "kaput" (i.e., "the end", linguistic borrowing from German)

S/No.	Key	Terms	Explanation
59	Putler	Путлер	Blending of "Putin" and "Hitler"
60	Putlerovets	Путлеров	Putin follower
61	Putlerovskij	Путлеровск	Adjective formed from "Putler", "Putler"-like, belonging to or characteristic of "Putler"
62	Unter fuhrer	Недофюрер	"Not quite" a fuhrer meaning aspiring but not quite successful as a fuhrer (i.e., Nazi leader)
63	Pukin	Пукин	Blending of "Putin" and a vulgar word
64	Putenok	Путен; Путён	Blending of "Putin" and "duckling" (or other bird or animal offspring/youngling), minimizing, condescending
65	Uti Puti	Ути-Пути	Condescending nickname
66	Putya	Путя	One of Putin's nicknames (in Nominative case); this form as well as other case forms are included instead of the word stem because the stem would coincide with a common Russian word ("_____") and, therefore, would come up in the search in the meaning unrelated to Putin, so it is not listed here. Genitive and Instrumental case forms could not included for the same reason (they coincide with various forms of this word) *Some other neologisms that can be mistaken for common Russian words were not listed but this particular one is a common nickname of Putin so it appears beneficial to include at least some of its forms that do not overlap with other (unrelated) ones.
67	Putyu	Путю	Same in Accusative case
68	Putye	Путе	Same in Dative and Prepositional case forms
69	Nerukopozhatyj	Нерукопожат	Not technically correct but perfectly comprehensible way of forming an adjective/participle that expresses the following in one word "someone whose hand was not pressed/shaken" referring to foreign heads of states not shaking Putin's hand
70	Putinism	Путинизм	Putinism (like Leninism or Marxism)
71	Zaputitsya	Запути; Запутин	Verb formed from "for" plus "Putin", to start supporting Putin; also happens to sound close to "to get lost/confused")

S/No.	Key	Terms	Explanation
72	Putinoid	ПуТИНОИД	Putin-robot
73	Putikantrop	ПуТИКАНТРОП	Pre-historic (primitive) Putin-like or Putin-supporting creature
74	Putinovivat	ПуТИНОВИВАТ	From "Putin" and "Vivat!"; referring to support of Putin's policy, used sarcastically
75	Puting	ПУТИНГ	"Putin" blended with English "-ing" (possibly to refer to a pro-Putin rally or activity)
76	Putinomics	ПуТИНОМИК	Blending of "Putin" and "economics"
77	Putinomicheskij	ПуТИНОМИЧ	Adjective formed from "Putinomics" (see above)
78	GotPutin	ПуТИН есть – ума не надо; ПуТИН есть, ума не надо; ПуТИН есть ума не надо	Deliberate substitution in the well-known saying "Got money - don't need brains"

7. Russia-Related Terms

S/No.	Key	Terms	Explanation
79	Rashka	Рашк	Distorted "Russia", pejorative
80	Parashka	Парашк	Play on words, blending of pejorative form for "Russia" with a vulgarism
81	Rashaputiniya	РашапуТИН	Blending of pejorative form for "Russia" and "Putin"
82	Putinland	ПУТИНЛЭНД	Putin + "land"
83	Rashkostan	Рашкостан	Blending of pejorative form for "Russia" and "-stan"
84	Katsap	Кацап	Pejorative exonym for "Russian person"
85	Katsapstan	Кацапстан	Blending of pejorative exonym for "Russian person" and "-stan"
86	Katsapendiya	Кацапенди	"Land of katsaps" (formed from pejorative ethnic label for Russian person)
87	Federastiya	Федераст	Blending of "Federation" and "pederast", common vulgarism used to refer to pedophiles

S/No.	Key	Terms	Explanation
88	RF_ iya	ЭрЭфи	Pejorative reference to Russia formed from the first letters of Russian Federation (RF)
89	Katsapantrop	Кацапантроп	Blending of "katsap" and pre-historic (primitive) creature
90	Katsapcheg	Кацапчег	Land of "katsap"
91	Mordor	Мордор	Reference to Russia as the land of zombie-fied residents (Tolkien)
92	Gollum	Голлум	Reference to Putin followers as unthinking robots (Tolkien)
93	Matskva	Мацкв	Pejorative distortion of "Moscow", possibly imitating Moscow pronunciation (phonetic feature of local dialect)
94	Matskovskij	Мацковск	Adjective formed from the above
95	Moskal	Москал	Derogatory ethnic term for Russian resident of Moscow or a Russian
96	Matskal	Мацкал	Same as above
97	Moskovit	Московит	Same as above
98	ProRossist	Пророссист	Pro-Russian element/individual
99	Rashak	Рашак	Pejorative form of Russian
100	Rashist	Рашист	Blending of pejorative form for Russia and "fascist"
101	Putinpamagi	Путинпамаги	"Putin" plus intentionally incorrectly spelled "to help" (in Imperative form, referring to anti-Maidan actors appealing to Putin for help)
102	Separator	Сепаратор	Person who supports separation of Ukrainian territories from Ukraine
103	Sepr	Сепр	same as above
104	Separatyak	Сепаратяк	same as above
105	Separashist	Сепарашист	Blending of the above and "fascist"
106	Imperialists	Имперц	Pejorative form of Imperialists (referring to perceived imperial designs by Russia)
107	Rashachnya	Рашачн	Pejorative collective noun referring to Russians
108	Kolorad	Колорад	Russian patriots who frequently wear Russian St. George Ribbons that resemble the colors of the Colorado beetle
109	Vatnik	Ватник	Reference to a person wearing a "vatnik", cheap Russian winter coat made with heavy cotton padding to protect from the cold, supposedly worn by hired or Russia-affiliated anti-Maidan protesters

S/No.	Key	Terms	Explanation
110	Vatan	Ватан	Same as above
111	Nyashmyash	Няшмяш	Associated with former Ukrainian City Prosecutor of Simferopol Ms. Poklonskaya who is considered a traitor of the Ukraine after she started serving Russian authorities. When due to her anime-like cuteness, she was named "nya"/"nyash", she famously replied that she will not allow any "nyashmyash". "Nyash" has come to denote betrayal and pro-Russian stance.
112	LeaveUsAlone	Отстань, страна погромная; Отстань страна погромная	leave us alone

8. Crimea-Related Terms

S/No.	Key	Terms	Explanation
113	Krymnash	Крымнаш; Крымняш; Крымраш	Commonly used sarcastically to refer to Russian expansionist aspirations and to supporters of the annexation of the Crimea by Russia
114	Rashkrysh	Рашкрыш	Similar to above with "Rash" used for "Russia" and the last consonant changed to "sh" for homophonic effect
115	Skrymzit	Скрымз; Скрымзд	Newly coined verb meaning to steal or take away unlawfully formed with "Krym" (Crimea) as its root
116	Occupendum	Оккупендум	Blending of "referendum" and "occupy" referring to the Crimean referendum
117	Uberikamerublya	Уберикамерубля	"Put away your camera" followed by a common expletive all spelled as a single word as in the "Ubericameryblya"-type Country or Republic referring to Russia

9. Russian Region-Related Terms

S/No.	Key	Terms	Explanation
118	Lugandon	Лугандон	Blending of "Lugansk" and an obscene word
119	Luganda	Луганд	Blending of "Lugansk" and "Uganda", used derogatorily
120	Donbabve	Донбабве	Blending of "Donetsk" or "Don" and Zimbabwe, used derogatorily
121	Dombabve	Домбабве	Same as above with "n" replaced by "m", also the way it is pronounced happens to sound like "dumb"
122	Domborossiya	Домборосси	Blending of "Dombabve" and "Rossiya", cf. Novorossiya (the name Lugansk and Donetsk pro-Russian separatists use to refer to their territory)
123	Daunbass	Даунбасс	Blending of "Donbass" (name of the coal region as in Donetsk basin) and "Down" as in Down syndrome
124	Dambass	Дамбасс	Similar to above, also sounds like English "Dumbass"

B. ANTI-EUROMAIDAN TERMS

1. Maidan Verbs

S/No.	Key	Terms	Explanation
1	Majdanit	майдани	Verb formed using "maidan" as its root, typically meaning to protest, rebel, be unruly, etc. This and other verbs may also appear in the reflexive form ("majdanit'sya") and the search for the specified strings should catch the reflexive forms as well
2	Majdannichat	майданни	Same formed using a different derivational pattern, with clear pejorative meaning
3	Majdanut	майдану	Similar but perfective aspect form
4	Majdanutyj	майданут	Past passive participle from the verb above, likely to be used to mean "crazy"

S/No.	Key	Terms	Explanation
5	Namajdanit	намайдани	Possibly "to cause trouble". This and other verbs below are formed by adding various verbal prefixes which can express a variety of meanings that are best understood in context
6	Promajdanit	промайдани	Possibly "to miss, to lose". This and other verbs listed here are formed by adding common verbal prefixes which can express a variety of meanings that are best understood in the specific context in which they appear
7	Pomajdanit	помайдани	This and other verbs listed here are formed by adding common verbal prefixes which can express a variety of meanings that are best understood in the specific context in which they appear
8	Razmajdanit	размайдани	This and other verbs listed here are formed by adding common verbal prefixes which can express a variety of meanings that are best understood in the specific context in which they appear
9	Vmajdanit	вмайдани	This and other verbs listed here are formed by adding common verbal prefixes which can express a variety of meanings that are best understood in the specific context in which they appear
10	Vymajdanit	вымайдани	This and other verbs listed here are formed by adding common verbal prefixes which can express a variety of meanings that are best understood in the specific context in which they appear
11	Domajdanit	домайдани	This and other verbs listed here are formed by adding common verbal prefixes which can express a variety of meanings that are best understood in the specific context in which they appear
12	Zamajdanit	замайдани	This and other verbs listed here are formed by adding common verbal prefixes which can express a variety of meanings that are best understood in the specific context in which they appear
13	Otmajdanit	отмайдани	This and other verbs listed here are formed by adding common verbal prefixes which can express a variety of meanings that are best understood in the specific context in which they appear

S/No.	Key	Terms	Explanation
14	Izmajdanit	измайдани	This and other verbs listed here are formed by adding common verbal prefixes which can express a variety of meanings that are best understood in the specific context in which they appear

2. Maidan Derivatives

S/No.	Key	Terms	Explanation
15	Maidanschik	майданщи	Someone engaging in Maidan protests
16	Majdan_rascal	майдаплут	Blending of "Majdan" and "trickster"
17	Majdalnyj	Майдальн	Blending of "Maidan" and "Navalny", Russian politician and opposition leader who supported Maidan
18	Majdashenko	Майдашенко	Blending of "Maidan" and "Timoshenko" (former Ukrainian premier Yulia Timoshenko who supported Maidan)
19	Maidan_idiot	майдалох	Blending of "Maidan" and "idiot"
20	Majdan_criminal	майдазэк	Blending of "Maidan" and "incarcerated criminal," in particular, in reference to Yulia Timoshenko
21	Majdan_arbeiter	майданобайтер	Blending of "Maidan" and "arbeiter," referring to those who allegedly protest for money
22	Majdanolog	майданолог	Maidan pundit, demagogue
23	Majdarast	майдараст	Blending of "Maidan" and a vulgarism denoting "pedophile"
24	Majdown	майдаун	Blending of "Maidan" and "Down syndrome"
25	EuroMajdown	евромайдаун	Same with Euro- added upfront
26	Majdaner	майданюк	Blending of "Maidan" and a vulgarism
27	Majdanopitek	майданопитек	Blending of "Maidan" and a vulgarism
28	Animal_exhibit	Зверинец; Зверинц	Pejorative reference to Maidan gatherings that were fenced where access was controlled
29	Majdabug	майдабаг	Blending of "Maidan" and "bug", problems/malfunctions experienced by Maidan movement
30	Maidafuk	майдафак	Blending of "Maidan" and "f**k"

S/No.	Key	Terms	Explanation
31	Majdabajda	майдабайда	Blending of "Maidan" and "nonsense"
32	Majdafottrabakh	майдафоттрабах	Incident in which Maidan journalists were "deservedly" beaten by police
33	Majdan_slogan	майдафраз	Maidan slogan
34	Majdan_revolution	майдануци	Blending of Maidan and revolution in a way that also sounds like an obscene form and suggests failure

3. Ukraine-Related Terms

S/No.	Key	Terms	Explanation
35	Ukrs	укры	Abbreviation of "Ukrainians", pejorative way of referring to Ukrainian people * Only plural form is included because the singular form represents a common string
36	Ukrop	укроп	Pejorative reference to a Ukrainian person, also means "dill" which is a common herb used in cooking
37	Ukropstan	Укропстан	Formed "Ukrop" and -stan, pejorative reference to Ukraine
38	Ukropotamiya	Укропотам	Derogatory reference to Ukraine as land of "Ukrop"
39	Ukruina	Укруин	Deliberate pejorative distortion of the word "Ukraine" to convey destruction
40	Ukhreina	Ухреин	Blending of "Ukraine" and an obscene word *CAUTION: has clear obfuscated obscene root
41	Usraina	Усраин	Blending of "Ukraine" and a vulgarity *CAUTION: has clear obfuscated vulgar root
42	Ugraina	Уграин	Deliberate distortion of "Ukraine", possibly because it creates phonetic associations with other sounding words to convey the meaning of "screwed up"
43	Podpindosiya	Подпиндос	Reference to the Ukraine as a country "under" the USA (subjugated by USA, derogatory word used for USA)

S/No.	Key	Terms	Explanation
44	Ukro_pitek	Укропитек	Another blending of "Ukrop" and a vulgarism
45	Ukro_cattle	Укробыдл	blending of "Ukrop" and a derogatory word invoking cattle
46	Natio_cattle	нациобыдл	Blending of nation/national/nationalism and same derogatory word
47	Ukrop_army	укропарми	"dill army", pejorative reference to the Ukrainian military
48	Ukro_fascist	Укрофашист	Blending of Ukr and "fascist"
49	Fashik	фашик	Pejorative/diminutive form of "fascist"
50	Khokhol	хохол	Pejorative exonym
51	Khokhly	хохл	Version of same as above but with the fleeting vowel (ref. Russian grammar) removed as it disappears in some case forms as well as in the corresponding adjective
52	Kakol	какол	Blending of above and a vulgarism
53	Kakly	какл	Same as above for plural and other forms
54	Kakel	какел	Same as above
55	Kaklopitek	каклопитек	Blending of the above vulgar blend with another common vulgarism
56	Khokhlop	хохлоп	Blending of exonym and "Kholop" which means "serf"
57	Khokhlyad	хохляд	Blending of exonym and an obscene word
58	Khokhlo_junta	хохлохунт	Blending of exonym and "junta"
59	Khokhlo_manure	хохлонавоз	Blending of exonym and "manure"
60	Khokhlo_battalion	хохлополк	Blending of exonym and "regimen" (as in "military battalion")
61	Pan_headed	кастрюлеголов	Reference to use of pots/pans by Maidan protesters
62	Hero	херой; херою; хероя; хероем; херое; херои; хероев; хероям; хероями; хероях	Deliberate distortion of the Russian word for "hero" that makes association with an obscene word
63	Orange_oid	оранжоид	Referring to a supporter of the "orange" revolution in a derogatory form
64	Lard_eater	салоед	Pejorative reference to a Ukrainian
65	Anizhdet	аниждет	Distortion/Blending of "But they are kids!"; a reference by a pro-Ukrainian source's reference to youths participating in Maidan who

S/No.	Key	Terms	Explanation
			were roughed up by government forces as "merely kids" (the anti-Maidan side perceives them as adult militants, not kids)
66	Onizhdet	ониждет	Same as above
67	Informed one	свидомит; свидораст	Sarcastic reference to a Ukrainian who claims to be an expert, formed from corresponding Ukrainian word
68	Unity_supporter	униаст	Unification (of Ukraine) enthusiast blended with a vulgar word
69	Liberal	либераст	Blending of "liberal" and a vulgar word
70	Patriot	поцреот; патрыет; патрыёт	Pejorative reference to Ukrainian patriots, distortion of corresponding Ukrainian word
71	NotYetDead	щэнэвмерл; щэнэвмерлик	Pejorative distortion of a slogan "It has not died yet"
72	Movnyuk	мовнюк	Derogatory blending of the Ukrainian word for language "mova" and a vulgarism
73	Dnepro_Judovsk	Днепрожидовск	Blending of Dnepropetrovsk (city) and derogatory word for "Jew"
74	Traitor_nationalist	Национал-предател	A traitor motivated by nationalism
75	Vyshivatnik	Вышиватник	A person wearing a traditional embroidered Ukrainian shirt, Ukrainian nationalist

4. Ukraine Historical-related Terms

S/No.	Key	Terms	Explanation
76	Mazepa_fan	мазепи	Supporter of Mazepa, controversial Cossack leader of 17/18th century; other words are possible with this stem, e.g., "mazepinka", adjective "mazepinskij", etc.
77	Neo_Mazepist	неомазепи	Same as above with "Neo" added upfront (as in the word Neo-Nazi)
78	Bandera_fan	бандеров	Supporter of Bandera, controversial leader during the time of WWII; other words possible, e.g., adjective "banderovskij", etc.
79	Bendera_fan	бендеров	Same as above, different spelling
80	Bander_log	бандерлог	Pejorative reference to a supporter of Bandera

S/No.	Key	Terms	Explanation
81	Bender_log	бендерлог	Same as above, different spelling
82	Bander_trop	бандертрол	Also a pejorative reference to a supporter of Bandera
83	Bender_trop	бендертрол	Same as above, different spelling
84	Judo_Bander	жидобандер	Blending of a derogatory term for "Jew" and "Bandera"
85	Judo_Bender	жидобендер	Same as above, different spelling
86	Petlyura_fan	петлюров	Supporter of Petlyura, controversial leader during the time of civil war after the October Revolution of 1917; other words possible, e.g., adjective "petlyurovskij", etc.

5. Ukraine Historical-Related Terms

S/No.	Key	Terms	Explanation
87	Lard_dropped	Сало Уронили	Pejorative distortion of the "Glory to the Ukraine"; literal translation "Lard has been dropped", contains a reference to lard as a traditional staple of Ukrainian diet
88	Shroud_Ukraine	Саван Україне	"Shroud to the Ukraine", pejorative distortion of "Glory to the Ukraine"
89	Lard_Ukraine	Сало Україне; Сала Україне	"Lard to the Ukraine" pejorative distortion of "Glory to the Ukraine"
90	Lard_Heroes	Хероям сала; Хероям сало	"Lard to the heroes", pejorative distortion of "Glory to the Ukraine"
91	FU_Lard	Херовое сало	"[Expletive] Lard"; pejorative distortion of "Glory to the Ukraine" that contains an obscenity

6. Ukraine Organization-Related Terms

S/No.	Key	Terms	Explanation
92	Pravosek	правосек	Member or supporter of the "Right Sector" ("Pravyj sektor") Ukrainian political fraction

S/No.	Key	Terms	Explanation
93	Pedalik	педалик	Derogatory reference to V. Klichko, former boxer and currently a politician, one of the leaders of Maidan
94	Yulka	Юльк	Pejorative diminutive for Yulia (Yulia Tymoshenko, former Ukrainian Prime Minister)
95	Yulfan	Юльфан	Another pejorative diminutive for Yulia (Yulia Tymoshenko, former Ukrainian Prime Minister)
96	Yulebot	Юлебот	Blending of Yulia and "bot"
97	Thievish_Yulia	Жулия; жулию; жулии; жулие; жулией	Blending of "crook" and Yulia
98	Zhulia	ВорЮл	Blending of "thief" and Yulia (with the initial letter of her name typically capitalized in the middle of the word)
99	Yajtsenyuk	Яйценюк	Pejorative distortion of Yatsenyuk, post-Maidan Prime-Minister of the Ukraine, by blending it with a vulgarism
100	Yajtsenyukh	Яйценюх	A different vulgar distortion of Yatsenyuk's name
101	Tsutsenyuk	Цуценюк	Blending of a pejorative word with Yatsenyuk's name
102	Yajtsepuk	Яйцепук	Blending of his name with two vulgarisms
103	Yasenkher	Ясенхер	Blending of his first name, last name, and obscenity
104	Kulyavlob	Кулявлоб	Blending of "bullet in the forehead," sarcastically referring to Yatsenyuk based on his famous pronouncement that he was ready for a bullet to his head
105	Kulejvlob	Кулейвлоб	same with the first word in the Instrumental case form
106	Usur_pastor	Узурпастор	Reference to Turchinov who is a "pastor" who "usurped" power (blending of "usurp" and "pastor")
107	Trupchinov	Трупчинов	Blending of Turchinov and the word for "corpse"
108	Turchinator	Турчинатор	Blending of Turchinov and "terminator"
109	Polufabrikant	Полуфабрикант	Blending, reference to Petro Poroshenko, post-Majdan Ukrainian President referring to his business ownership in a minimizing, derogatory way

S/No.	Key	Terms	Explanation
110	Roshenko	Рошенко	Reference to Petro Poroshenko by the name of his chocolate business "Roshen"
111	Poroshenfuhrer	Порошенфюрер	Blending of Poroshenko and "fuhrer" (nazi leader)
112	Tryndita	Трындита; Трындиту; Трындитой; Трындиты	Sarcastic nickname of Oleg Tyagnibok who was part of the opposition prior to Majdan
113	Vognegasnik	Вогнегасник	Sarcastic nickname for Klichko earned after an incident involving him being doused with a fire extinguisher
114	Ne_uper	неупер	Perjorative reference to a person/politician who falsely proclaims himself/herself to be unbiased; a contracted form of the corresponding Ukrainian word

7. Ukraine Organization-Related Terms

S/No.	Key	Terms	Explanation
115	Ukro_post	укропост	Biased post by the pro-Ukrainian side
116	Khokhlo_media	хохло-сми	Blending of exonym and "media"

8. West-Related Terms

S/No.	Key	Terms	Explanation
117	Euro_racketeer	евроэкетир; еврокетир	Euro-racketeer
118	Euro_bastard	европодон	Blending of "euro" (as in "European" referring to Western Europe) and a derogatory word
119	Euro_parasite	евротунеяд	Euro-parasite
120	Euro_traitor	европредател	Euro-traitor
121	Euro_liar	евролжец	Euro-liar
122	Euro_bastard	евросволоч	Blending of "euro" and a different derogatory word
123	Euro_sodomy	евросодом	Euro-sodomy

S/No.	Key	Terms	Explanation
124	Gayropa	гейроп	Gay-Europe (derogatory reference to Western Europe for recognizing gay rights)
125	Majduropa	майдуроп	Blending of "maidan" and "Europe" referencing belief that Western European nations were among those behind Maidan as well as Maidan movement European leanings
126	Pindos	пиндос; пендос	Derogatory reference to Americans, which interestingly originated as a derogatory reference to Greeks, then transfer of meaning occurred
127	Ameristan	Пиндостан; Пиндустан	Blending of derogatory word for "American" and "-stan", reference to USA
128	Washington facist	Фашингтон	Blending of "fascist" and Washington (as in DC)
129	Jew_nato	Жидо-НАТО	Blending of derogatory term for "jew" and Nato

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APPENDIX B. LIST OF UKRAINIAN LEXICONS

A. PRO-EUROMAIDAN TERMS

1. President Yanukovich-Related Terms

S/No.	Key	Terms	Explanation
1	falshuvannya	фальшування	Falsification (of intent, ref to Yanukovich)
2	zoloti batoni	золоті батони	“Golden loaves“ of Yanukovich, oligarch
3	personanongrata	персона-нон-грата	Reference to Yanukovich, et al
4	professor	професор	Yanukovich's misspelling on his application for President earned him the nickname Professor
5	impichment	імпічмент	Impeachment; constituents wanted Yanukovich gone
6	zradnik	зрадник	Traitor
7	sutener	сутенер	Pimp
8	Yanucharamtaiga	янучарам - тайга	Send pro-Yanukovich folks to taiga in Siberia
9	kham	Хам	Boor, cad
10	Vityachao	Вітя, чао	Ciao, lil Victor (ref. to Yanukovich)
11	Yevnukhovich	Евнухович	Anti-Semitic ref. to Yanukovich (yevrey = jew)
12	zaprodanets	запроданець	Invader, traitor
13	virodok	виродок	Monster
14	Yaytsepad	Яйцепад	Testicles (yaytsi) fell, ref to Yanukovich's lack of balls
15	Soochey syn	Сучий син	Son of a Bitch, ref to Yanukovich
16	yolka	йолка	Combination Ukrainian word (yolop = dolt) + Russian word yolka NYE tree associated with Yanokovich
17	Kryvava yolka	Кривава йолка	Bloody "yolka"
18	Shapkokrad	Шапкокрад	Hat stealer (Cossack game)
19	Bandito Yanuchito	Бандіто Янучіто	Outlaw, ref to Yanukovich
20	Zlatounitazovich	Златоунітазович	Reference to Yanukovich's golden (zlato) toilets (unitaz) + ovich

S/No.	Key	Terms	Explanation
21	Yalinkovich	Ялинкович	Reference to holiday tree (yalinka) -gift- from Yanukovych to Ukrainian people
22	Bandiukovich	Бандюкович	Amalgamation bandits & Yanukovych
23	Vitka	Вітька	"Loving" reference to little Victor Yanukovych
24	Yanek	Янек	Deliberate misspelling/nickname for Yanuk(ovych)
25	Yanik	Яник	Nickname for Yanuk(ovych)
26	Yanki	Янки	Nickname for Yanukovych (Yankee)
27	Yanni	Янні	Nickname for Yanukovych (Yankee)
28	Yanukovosch	Януковощ	Combination of Yanukovych and vegetable (ovosch), ie not capable of thinking
29	Bandiuk	Бандюк	Nickname of bandit/ Yanukovych
30	mudak	мудак	idiot
31	ovosch	овощ	Vegetable
32	Yanuchar	Янучар	Reference to Yanukovych as Janissary (Christian youth conscripted to serve in Ottoman infantry units, uber powerful btw 16-19c)
33	Yanichar	Яничар	Reference to Yanukovych as Janissary (see above)
34	Yanuchesku	Януческу	Reference to Yanukovych as Romania's deposed leader Ceausescu
35	Yanushesku	Янушеску	Reference to Yanukovych as Romania's deposed leader Ceausescu
36	Khanukovich	Янукович-Ханукович	Reference to Yanukovych's Jewry, anti-Semitism
37	Vzhopu	В жопу	Up your a**, ref to Yanukovych
38	parasha	параша	Lowest class (in prison), akin to Pariah, ref to Yanukovych
39	skazheniye	скаженіє	Go crazy, crazed
40	Zaotvyetish	За... ответіш	Ukrainian spelling of Russian word otvyet (you will answer for...), ref to Yanukovych
41	Strybatichini	Стрибати, чи ні	"To jump or not to jump" – spoof on Presidential ad campaign
42	Mezhihirya	Межигір'я	Presidential, home -- palatial estate
43	Mezhiochi	Межіоці	Between the eyes, want to punch
44	batya	батя	Batya, ref to Father, leader Yanukovych
45	Nevseremos	Невсеремось	Play on words, to Yanukovych Venceremos – we will win

2. UK Parliament-Related Terms

S/No.	Key	Terms	Explanation
46	Bankova	Банкова	Bankova St, where Presidential offices are located
47	Proval vladi	провал влади	Failure of regime
48	Pravyi sektor	Правий Сектор	'Right Sector' aka Ukrainian Nationalist party
49	pravoseki	правосеки	Nickname for Right Sector-ians
50	kaznokradi	казнокради	Embezzlers
51	koruptsioneri	корупціонери	Those who are corrupt
52	kadrova revolutsiya	кадрова революція	Drastic personnel change, e.g., replacing 10 of 18 Cabinet ministers
53	zubozhinnya	зубожіння	Impoverishment; ref to result after Tymoshenko's billboard ad campaign costs, e.g., corrupt use of funds
54	razvod kotyat	развод котят	Next litter of kittens (breeding same old...)
55	pakrashchennya	пакращення	Improvements; ref to Azarov's claim, with telltale "o" spoken as Russian "a", deliberate misspelling
56	zdolati	здолати	Overcome, subdue
57	nari	нари	Prison bench
58	nardupi	нардупи	Play on words for amalgamation of narodny (national) deputati (delegates) or nardep; changed to dupi (assholes)
59	Partiya himoroyiv	Партія Гімороїв	Official political "Party of Regions" (rehioniv) -PR-changed to Party of Hemorrhoids (himoroiv)
60	nelehitimnist	нелегітимність	Illegitimacy (reference to govt)
61	PeRDauni	пердауни	Party of Regions (PR) acronym + Down Syndrome
62	Natsistskiy demarsh	Нацистський демарш	Nazistic Demarche = change in policy, reference to Nazi Germany
63	Khvoynyy ekstrakt	хвойний екстракт	Pine cleaner after taking a bath, get rid of ring/stain
64	krolik	кролик	Rabbit, reference to PM Yatseniuk
65	kulyavlob	кулявлюб	Bullet to the forehead, reference to PM Yatseniuk, what to do with those who do not support Maidan
66	Tiahnibaks	Тягнибакс	Reference to Tiahnibok, political candidate; code named Tiahnibucks for allegedly syphoning money for his campaign

S/No.	Key	Terms	Explanation
67	Shokolyadnyy zayets	Шоколадний засць	Reference to Poroshenko, 'Roshen' candy business
68	Porokh	Порох	Literally, dust, reference to Poroshenko
69	Triholovyy	Триголовий	Three-headed monster (reference to Yatseniuk, Tiahnibok, and Poroshenko)
70	Triholovyy	Яценюк	Three-headed monster (reference to Yatseniuk, Tiahnibok, and Poroshenko)
71	Triholovyy	Тягнибок	Three-headed monster (reference to Yatseniuk, Tiahnibok, and Poroshenko)
72	Triholovyy	Порошенко	Three-headed monster (reference to Yatseniuk, Tiahnibok, and Poroshenko)
73	Упурыатнык	Упирятник	"Wizard," ref to those in power temporarily
74	Dasvidanya	Да свіданія!	Play on Ex-PM Azirov's bye (in Russian da svidaniya)
75	Tritushki	Тритушки	Play on phrase Titushki (see p 22)
76	TriMushkateri	Три мушкатери	Three Muscateers (reference to Yatseniuk, Tiahnibok, and Poroshenko)
77	Klitsenbok	Клиценбок	Combination of Klichko, Yatseniuk, Tiahnibok, jockeying for power
78	Klitsenbok	Кличко	Combination of Klichko, Yatseniuk, Tiahnibok, jockeying for power
79	Klitsenbok	Яценюк	Combination of Klichko, Yatseniuk, Tiahnibok, jockeying for power
80	Klitsenbok	Тягнибок	Combination of Klichko, Yatseniuk, Tiahnibok, jockeying for power
81	Tribohateri	Три богатері	Three wealthy men (reference to above)
82	Triytsya	Трійця	Trinity (reference to above trio of power players)
83	Bezvozhdiv	Без вождів	Without (bad) leaders
84	Nemamka	Не мамка	Reference to Mama as Yulia Tymoshenko, ex-PM, Presidential candidate
85	Pochesnyy khuligan	Почесний хуліган	Reference to Romania's city council hooligan

S/No.	Key	Terms	Explanation
86	Academic kuligan	Академічний хуліган	Academic hooligan
87	Universitet khuliganiv	Університет хуліганів	University of Hooligans
88	politichnyy trup	Політичний труп	Political corpse
89	Hospidar	Госпідар	Ex-PM Azarov's special switching o's to i's to attempt to speak in Ukrainian
90	Vlada zlodiyiv	Влада злодіїв	Crooked leadership
91	Proklati durnolobtsi	Проклаті дурнолобці	Damned idiots (no brains)
92	Naiivni bevzi	Наївні бевзі	Naïve jerks
93	telepni	телепні	Blockheads
94	klovnadiya	клоунадія	Buffoonery
95	Azirovhit	Азіров – гіть	Using Ex-PM Azarov's wacky pronunciation of vowels... (het' meaning away) Azirov – go away! - Maidan slogan
96	Obirezhna	Обірежна	Play on Ex-PM Azarov's mispronunciation of vowels in the word 'warning' (oberezhno) - Maidan slogan
97	Bimbove pawle	Бімбове поле	Play on Ex-PM Azarov's fake bomb notification – ie, warning, minefield - Maidan slogan

3. Anti-Euromaidan Forces-Related Terms

S/No.	Key	Terms	Explanation
98	varvarska	варварська	Barbarian
99	kat	кат	Executioner, hangman

4. President Putin-Related Terms

S/No.	Key	Terms	Explanation
100	porebriki	поребрики	Curb bricks, reference Putin: do not advance beyond curb
101	Pukin	Пукін	Putin's a fart (pukati is to fart)

S/No.	Key	Terms	Explanation
102	Putyara	Путяра	Nickname for Putin
103	Putka	Пуцька	Nickname for Putin
104	PTN PNKh	ПТН ПНХ	Putin (PTN) Go F*** yourself (pidi na khuy, lit., go on a dick)
105	pidar	підар	Slang for faggot, ref to Putin homophobia
106	hivnek	гівнек	Dipshit
107	pidaras	підарас	Ukrainian spelling of Russian word for homo, cunt, pansy, reference to Putin and Yanukovich
108	vsravsi	всравсі	Shit your pants, ref to Putin and Yanukovich
109	Pidysam	Підисам	First half of Go F*** yourself, ref to Putin and Yanukovich
110	Putinkhlo	Путін х..ло	Putin is a dick (politely missing уї of хуйло)

5. Russia-Related Terms

S/No.	Key	Terms	Explanation
111	koruptsiyna skhema	корупційна схема	Corruption scheme; organized crime
112	burokratichno-mafioznyy klan	бюрократично-мафіозний клан	Reference to infighting between Russian Mafia & Russian bureaucrats
113	ahresori	агресорі	"Aggressors" = what Ukrainians call Russians
114	kazli	казли	Goats, in Russian "o" pronounced "a," reference to stupid people
115	zhopolchentsi	жополченці	Reference to pro-Russian fighters opolchentsi + zhopa = asshole
116	rashisti	рашисти	Russian Fascist combined = racist
117	akvafreshi	аквафреші	"Aquafreshies," reference to the colors of the RU flag (similar to Aquafresh toothpaste)
118	sovok	совок	Soviet (Muscovite)
119	vata	вата	Literally, cotton; ref to "no brains"
120	vatniki	ватніки	"Vatnik" is a prison shirt, ref to criminals (Pro-Russians)

S/No.	Key	Terms	Explanation
121	separi	сепари	Nickname for separatists, jargon
122	katok	каток	Steamroller, crushing all in its path
123	rashizm	рашизм	Ideology, totalitarian ideology Russia + fascism = ruscism

6. Ukraine Slogan

S/No.	Key	Terms	Explanation
124	Uvikni Ukrainu	Увікни Україну	Switch on Ukraine – Yanukovich couldn't correctly pronounce "УВІМКНИ"
125	Yanukovich pidaresht	Янукович підарешт	Yanukovich is under arrest
126	Lustratsiya abo kastratsiya	Люстрація або кастрація	Purge corruption or be castrated!
127	Chas rozihnati tsiu bandu	Час розігнати цю банду	Time to disperse this gang

7. Euromaidan Protester-Related Terms

S/No.	Key	Terms	Explanation
128	orda	орда	Horde, Mongol/Turk khanate organization
129	East and West together	Схід і захід разом	Russia to retreat back to her boundary

8. Euromaidan Slogan

S/No.	Key	Terms	Explanation
130	Banda het	Банда геть	Bandits go away!
131	V mytnyj soyuz puydyosh	В Митний союз пуйдьош	Play on words: Putin and ydyosh = puydyosh; go join Putin's answer to EU (Customs/Trade Union among Belarus, Armenia, Kazakhstan, Kyrgyzstan & Russia)
132	uzbahoyasya	узбагойся	Ukrainians negative response to Russian lemur meme "usbagoy" (relax), viral in Aug 2013

S/No.	Key	Terms	Explanation
133	Ne uzbahoyimsya	НЕ узбагоїмся	Ukrainians negative response to Russian lemur meme “usbagoiy” (relax), viral in Aug 2013
134	Tayozhenyy Soyuz	Тайожний Союз	First word "Tayozhenyy", adjective "of the taiga" (meaning in Siberia, i.e., out there)-- play on Putin created Tamozhenny (Таможенный) or customs/trade union
135	Diavolnositvatnyk	Диявол носить ватник	"Devil Wears Prada" reference to the Russian wears a prison shirt

B. ANTI-EUROMAIDAN TERMS

1. Euromaidan Protester-related Terms

S/No.	Key	Terms	Explanation
1	pribatsanyy	прибацаний	Slang for stupid, muttonhead
2	povstansti	повстанці	Rebels
3	ukhilyanti	ухилянти	Draft dodgers
4	ukhilniki	ухильники	Draft dodgers

2. Ukraine-Related Terms

S/No.	Key	Terms	Explanation
5	upir	упир	Ghouls
6	urod	урод	Freak
7	urodi	уроди	Freaks
8	karateli	карателі	Punishers, what Russians call Ukrainian soldiers
9	fashistski molodchiki	фашистські молодчики	Fascist young men
10	khokhli	хохли	Russians stereotype Ukrainians, ie, the traditional hairstyle of the Cossacks (khokhol, singular)
11	vyshivatniki	вишиватники	Derivative, reference to Ukrainians (embroidery)
12	Ukrop	Укроп	Russians call Ukrainians who uphold post-Yanukovich western leaning leadership; disparaging

S/No.	Key	Terms	Explanation
13	Novorosiya	Новоросія	Putin's campaign name to annex Eastern Ukraine
14	zapadentsi	западенці	Westerners
15	Malorosiya	Малоросія	Russia sees Ukraine as "Little Russia"
16	khokhli	хохлі	What Russians call Ukrainians (derogatory); a khokhol is the Cossack hairstyle
17	hadiv	гадів	Snakes (Russians call pro-Maidan-ers)

3. Ukraine Historical-Related Terms

S/No.	Key	Terms	Explanation
18	plebistsit	плебісцит	Referendum, from Latin, plebiscit
19	Benderivtsi	Бендерівці	Putin & Yanukovich's deliberate misspelling, on a "bender"
20	Banderivtsi	Бандерівці	Reference to those who follow Stepan Bandera, nationalist figure
21	Banderlohi	Бандерлоги	Variant of Bandera-inspired actors
22	papyeryedniki	папереднікі	Azarov's horrible pronunciation of predecessors (blames them)

4. Ukraine Organization-Related Terms

S/No.	Key	Terms	Explanation
23	khunta	хунта	Junta, interim power in Kyiv leadership

5. West-Related Terms

S/No.	Key	Terms	Explanation
24	Yevrohomo	Євро = гомо	Russia's propaganda that Europe is gay
25	Geyropa	гейропа	Gay Europe
26	yevrohomointegratsia	єврогомоінтеграція	Euro-homointegration

6. Russia Media-Related Terms

S/No.	Key	Terms	Explanation
28	slaboviki	слабовики	Weak-willed fighters
29	Maidowni	майдауни	Maidan supporters (those w/ Down Syndrome)
30	Maidanuti	майданути	Maidan supporters
31	separatizm	сепаратизм	Separatism, the efforts to divide Ukraine; means of hybrid war
32	Mobilizatsiya vbivaye	Мобілізація вбиває	"Mobilization kills," RU propaganda not to join the Ukrainian forces

7. Anti-Euromaidan Forces-Related Terms

S/No.	Key	Terms	Explanation
33	prostitushki	простітушки	Anyone paid to protest for current govt

8. UK Parliament-related Terms

S/No.	Key	Terms	Explanation
34	Fashistskakhunta	Фашистська хунта	Fascist (Kyivan) junta
35	banditi	бандити	"Bandits" - Russia's reference to any armed opposition forces
36	bimba	бімба	Ex-PM Azarov's erroneous use of 'I' when calling police to report a "bimb" (bomb) on Kyiv's metro
37	krovosis	кровосісь	Ex-PM Azarov mispronounced krovosos (bloodsucker)
38	bimba	бімба	Ex-PM Azarov mispronounced bomb, now part of lexicon as "bimb"

9. UK Special Forces-Related Terms

S/No.	Key	Terms	Explanation
39	berkutyata	беркутята	"Berkut" members (Ministry of Internal Affairs) posted to instigate protesters
40	ptashenyata	пташенята	Little birds, ref to "Berkut" security detail
41	berkutyata	беркутята	Those belonging to "Berkut" Internal Affairs unit, riot police

S/No.	Key	Terms	Explanation
42	berkutushki	беркутушки	Combination Titushka and Berkut actor

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LIST OF REFERENCES

- Aday, Sean, Henry Farrell, Marc Lynch, John Sides and Deen Freelon. "New Media and Conflict After the Arab Spring." *United States Institute of Peace* no. 80 (July 2012).
- Aday, Sean, Henry Farrell, Marc Lynch, John Sides, John Kelly and Ethan Zuckerman. "Blogs and Bullets: New Media in Contentious Politics." *United States Institute of Peace* no. 65 (August 2010): 1-27.
- Al-Twairesh, Nora, Hend Al-Khalifa, and Abdulmalik AlSalman. "AraSenti: Large-scale Twitter-specific Arabic Sentiment Lexicons." In *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, 1, (August 2016): 697-705.
- Ansolabehere, Stephen and Eitan Hersh. "Validation: What Big Data Reveal About Survey Misreporting and the Real Electorate." *Political Analysis* 20, no. 4 (June 2012): 437-459.
- Ash, Lucy. "How Russia Outfoxes Its Enemies." BBC News. Last modified January 29, 2015. <http://www.bbc.com/news/magazine-31020283/>.
- Azam, Jean-Paul. "How to Pay for the Peace? A Theoretical Framework with References to African Countries." *Public Choice* 83, no. 1-2 (April 1995): 173-184.
- Azam, Jean-Paul, and Alice Mesnard. "Civil War and the Social Contract." *Public Choice* 115, no. 3-4 (June 2003): 455-475.
- Barberá, Pablo and Gonzalo Rivero. "Understanding the Political Representativeness of Twitter Users." *Social Science Computer Review* 33, no. 6 (December 2015): 712-729.
- Berman, Sheri. "Civil Society and the Collapse of the Weimar Republic." *World Politics* 49, no. 3 (April 1997): 401-429.
- Blank, Stephen. "Cyber War and Information War à la Russe." *Understanding Cyber Conflict: 14 Analogies* (November 2017): 81-98.
- Bormann, Nils-Christian and Jesse Hammond. "A Slippery Slope: The Domestic Diffusion of Ethnic Civil War." *International Studies Quarterly* 60, no. 4 (December 2016): 587-598. <https://doi.org/10.1093/isq/sqw031>.
- Bourret, Andrew K., Joshua D. Wines and Jason M. Mendes. "Assessing Sentiment in Conflict Zones through Social Media." Master's thesis, Naval Postgraduate School, 2016.

- Briggs, Asa and Peter Burke. *A Social History of the Media: From Gutenberg to the Internet*. Cambridge: Polity Press, 2009.
- Buhaug, Halvard. "Relative Capability and Rebel Objective in Civil War." *Journal of Peace Research* 43, no. 6 (November 2006): 691-708.
- Carr, Edward H. *The Twenty Years' Crisis, 1919-1939: An Introduction to the Study of International Relations*. New York: Harper & Row, 1964.
- Collier, Paul and Anke Hoeffler. "On the Incidence of Civil War in Africa." *Journal of Conflict Resolution* 46, no. 1 (February 2002): 13-28.
<https://doi.org/10.1177/0022002702046001002>.
- Croicu, Mihai and Ralph Sundberg. "UCDP GED Codebook version 18.1," Department of Peace and Conflict Research, Uppsala University (2017): 1-38.
- Davenport, Christian. "State Repression and the Tyrannical Peace." *Journal of Peace Research* 44, no. 4 (July 2007): 485-504.
<https://doi.org/10.1177/0022343307078940>.
- . "State Repression and Political Order." *Annual Review of Political Science* 10, no. 1 (June 2007): 1-23.
<https://doi.org/10.1146/annurev.polisci.10.101405.143216>.
- Department of Peace and Conflict Research. "Uppsala Conflict Data Program." (Accessed May 18, 2018). <http://www.ucdp.uu.se/downloads/>.
- Esteban, Joan-Maria and Debraj Ray. "On the Measurement of Polarization." *Econometrica: Journal of the Econometric Society* 62, no. 4 (July 1994): 819-851.
- Fearon, James D. "Economic Development, Insurgency, and Civil War." *Institutions and Economic Performance* 292 (May 2007): 1-46.
- . "Primary Commodity Exports and Civil War." *Journal of Conflict Resolution* 49, no. 4 (August 2005): 483-507. <https://doi.org/10.1177/0022002705277544>.
- Fearon, James D. and David D. Laitin. "Ethnicity, Insurgency, and Civil War." *American Political Science Review* 97, no. 1 (February 2003): 75-90.
<https://doi.org/10.1017/S0003055403000534>.
- Feklyunina, Valentina. "Soft Power and Identity: Russia, Ukraine and the 'Russian World(s)'." *European Journal of International Relations* 22, no. 4 (December 2016): 773-796. <https://doi.org/10.1177/1354066115601200>.

- Fjelde, Hanne. "Buying Peace? Oil Wealth, Corruption and Civil War, 1985—99." *Journal of Peace Research* 46, no. 2 (March 2009): 199-218. <https://doi.org/10.1177/0022343308100715>.
- Fjelde, Hanne and Indra De Soysa. "Coercion, Co-Optation, or Cooperation? State Capacity and the Risk of Civil War, 1961—2004." *Conflict Management and Peace Science* 26, no. 1 (February 2009): 5-25. <https://doi.org/10.1177/0738894208097664>.
- Friedman, Uri. "Putin's Playbook: The Strategy Behind Russia's Takeover of Crimea." *The Atlantic*. Last modified March 2, 2014. <http://www.theatlantic.com/international/archive/2014/03/putins-playbook-the-strategy-behind-russias-takeover-of-crimea/284154/>.
- Frost, Harold G., Anthony W. Evans and Robert H. Hodges Jr. "Understanding Violence through Social Media." Master's thesis, Naval Postgraduate School, 2017.
- Gandhi, Jennifer and Adam Przeworski. "Cooperation, Cooptation, and Rebellion under Dictatorships." *Economics & Politics* 18, no. 1 (March 2006): 1-26. <https://doi.org/10.1111/j.1468-0343.2006.00160.x>.
- Geographically based Economic Data (G-Econ) Database Version 4.0. (Accessed Jun 3, 2018). <https://gecon.yale.edu/data-and-documentation-g-econ-project>.
- Gerasimov, Valery. "The Value of Science is in the Foresight: New Challenges Demand Rethinking the Forms and Methods of Carrying Out Combat Operations." *Military Review* 96, no. 1 (January 2016): 23-29.
- Gerson, Michael. "Banish the Cyber-Bigots." *Washington Post*. Last modified September 25, 2009. <http://www.washingtonpost.com/wp-dyn/content/article/2009/09/24/AR2009092403932.html>.
- Ghonim, Wael. *Revolution 2.0: The Power of the People is Greater than the People in Power: A Memoir*. New York: Houghton Mifflin Harcourt, 2012.
- Goldstein, Joshua and Juliana Rotich. "Digitally Networked Technology in Kenya's 2007–2008 Post-Election Crisis." *Berkman Center Research Publication* 9 (September 2008): 1-10.
- Hendrix, Cullen S. "Measuring State Capacity: Theoretical and Empirical Implications for the Study of Civil Conflict." *Journal of Peace Research* 47, no. 3 (May 2010): 273-285.
- Herbst, Jeffrey. *States and Power in Africa: Comparative Lessons in Authority and Control*. Vol. 149. Princeton, NJ: Princeton University Press, 2014.

- . “African Militaries and Rebellion: The Political Economy of Threat and Combat Effectiveness.” *Journal of Peace Research* 41, no. 3 (May 2004):357-369. <https://doi.org/10.1177/0022343304043774>.
- Hill, Fiona. “Moscow Discovers Soft Power.” *Current History* 105, no. 693 (October 2006): 341-347.
- Humphreys, Macartan. “Natural Resources, Conflict, and Conflict Resolution: Uncovering the Mechanisms.” *Journal of Conflict Resolution* 49, no. 4 (August 2005): 508-537. <https://doi.org/10.1177/0022002705277545>.
- Hurd, Ian. “Legitimacy and Authority in International Politics.” *International Organization* 53, no. 2 (April 1999): 379-408.
- Kalyvas, Stathis N. *The Logic of Violence in Civil War*. Cambridge, UK: Cambridge University Press, 2006.
- Kaufmann, Chaim. “Possible and Impossible Solutions to Ethnic Civil Wars.” *International Security* 20, no. 4 (April 1996): 136-175. <https://doi.org/10.2307/2539045>.
- Krasner, Stephen D. *Sovereignty: Organized Hypocrisy*. Princeton, NJ: Princeton University Press, 1999.
- Lake, David A. “Relational Authority and Legitimacy in International Relations.” *American Behavioral Scientist* 53, no. 3 (November 2009): 331-353. <https://doi.org/10.1177/0002764209338796>.
- Leites, Nathan and Charles Wolf Jr. *Rebellion and Authority: An Analytic Essay on Insurgent Conflicts*. No. RAND-R-462-ARPA. Santa Monica, CA:RAND, 1970. <https://apps.dtic.mil/dtic/tr/fulltext/u2/705020.pdf>.
- Levi, Margaret. “Why We Need a New Theory of Government.” *Perspectives on Politics* 4, no. 1 (March 2006): 5-19. <https://doi.org/10.1017/S1537592706060038>.
- Livingston, Steven. *Africa's Evolving Infosystems: A Pathway to Security and Stability*. Research Paper no. 2. National Defense University Washington DC Africa Center for Strategic Studies, March 2011.
- Lukes, Steven. *Power: A Radical View*. London and New York: Macmillian, 1974.
- . “Power and the Battle for Hearts and Minds,” *Millennium* 33, no. 3 (June 2005): 477-493. <https://doi.org/10.1177/03058298050330031201>.
- March, James G. and Johan P. Olsen. “The Institutional Dynamics of International Political Orders.” *International Organization* 52, no. 4 (October 1998): 943-969.

- Mearsheimer, John J. "Why the Ukraine Crisis Is the West's Fault: The Liberal Delusions That Provoked Putin." *Foreign Affairs* 93, no. 5 (October 2014): 77-89.
- Minnesota Population Center. *Integrated Public Use Microdata Series*, International: Version 7.0 Dataset. Minneapolis, MN: IPUMS, 2018.
<https://doi.org/10.18128/D020.V7.1>.
- Mislove, Alan, Sune Lehmann, Yong-Yeol Ahn, Jukka-Pekka Onnela and J. Neils Rosenquist. "Understanding the Demographics of Twitter Users." In *Proceedings of the Fifth International AAAI Conference on Weblogs and Social Media* 11, no. 5 (July 2011): 554-557.
- Molchanov, Mikhail A. *Political Culture and National Identity in Russian-Ukrainian Relations*. College Station, Texas: Texas A&M University Press, 2002.
https://www.researchgate.net/profile/Mikhail_Molchanov/publication/310706407_Political_Culture_and_National_Identity_in_Russian-Ukrainian_Relations/links/5a5e562d0f7e9b4f783ba8ed/Political-Culture-and-National-Identity-in-Russian-Ukrainian-Relations.pdf
- Montalvo, José G. and Marta Reynal-Querol. "Ethnic Polarization, Potential Conflict, And Civil Wars." *American Economic Review* 95, no. 3 (June 2005): 796-816.
- Newman, Nic. "The Rise of Social Media and Its Impact on Mainstream Journalism." *Reuters Institute for the Study of Journalism*, University of Oxford (September 2009): 1-55.
- Nye, Joseph S. "Soft Power." *Foreign Policy*, no. 80 (October 1990): 153-171.
<https://doi.org/10.2307/1148580>.
- Pfeifle, Mark. "A Nobel Peace Prize for Twitter?" *The Christian Science Monitor*. Last modified July 6, 2009,
<https://www.csmonitor.com/Commentary/Opinion/2009/0706/p09s02-coop.html>.
- Pierskalla, Jan H. and Florian M. Hollenbach. "Technology and Collective Action: The Effect of Cell Phone Coverage on Political Violence in Africa." *American Political Science Review* 107, no. 2 (May 2013): 207-224.
- Posen, Barry R. "The Security Dilemma and Ethnic Conflict." *Survival* 35, no. 1 (March 1993): 27-47. <https://doi.org/10.1080/00396339308442672>.
- Powell, Joe. "Amid Censorship and Threats Ugandans Turn to New Media." *The Independent*. Last modified September 23, 2009.
<https://www.independent.co.uk/amid-censorship-threats-ugandans-turn-new-media/>.

- Poushter, Jacob. "Key Findings from our Polls on the Russia-Ukraine Conflict." Pew Research Center. Last modified June 10, 2015. <http://www.pewresearch.org/fact-tank/2015/06/10/key-findings-from-our-poll-on-the-russia-ukraine-conflict/>.
- Raven, Bertram H. "Political Applications of the Psychology of Interpersonal Influence and Social Power." *Political Psychology* 11, no.3 (September 1990): 493-520. <https://doi.org/10.2307/3791662>.
- . "The Bases of Power and the Power/Interaction Model of Interpersonal Influence." *Analyses of Social Issues and Public Policy* 8, no. 1 (December 2008):1-22.
- Risse, Thomas, Stephen C. Ropp and Kathryn Sikkink. *The Power of Human Rights: International Norms and Domestic Change*. Vol. 66. Cambridge, UK: Cambridge University Press, 1999.
- Sageman, Marc. *Misunderstanding Terrorism*. Philadelphia: University of Pennsylvania Press, 2016.
- Shapiro, Jacob N. and Nils B. Weidmann. "Is the Phone Mightier than the Sword? Cellphones and Insurgent Violence in Iraq." *International Organization* 69, no. 2 (April 2015): 247-274.
- Shirky, Clay. *Here Comes Everybody: The Power of Organizing Without Organizations*. New York: Penguin, 2008.
- Smith, Rogers M. *Stories of Peoplehood: The Politics and Morals of Political Membership*. Cambridge, UK: Cambridge University Press, 2003.
- State Statistics Committee of Ukraine, All Ukraine Census 2001 Database. (Accessed Jun 6, 2018). <http://2001.ukrcensus.gov.ua/eng/results/>.
- Sundberg, Ralph and Erik Melander. "Introducing the UCDP Georeferenced Event Dataset." *Journal of Peace Research* 50, no. 4 (July 2013): 523-532. [http://ucdp.uu.se/downloads/#__utma=1.105434004.1534222653.1534222653.1543347302.2&__utmb=1.10.10.1543347302&__utmc=1&__utmx=-&__utmz=1.1534222653.1.1.utmcsr=ucdp.uu.se%7Cutmccn=\(referral\)%7Cutmcmd=referral%7Cutmct=/&__utmv=-&__utmk=32854974](http://ucdp.uu.se/downloads/#__utma=1.105434004.1534222653.1534222653.1543347302.2&__utmb=1.10.10.1543347302&__utmc=1&__utmx=-&__utmz=1.1534222653.1.1.utmcsr=ucdp.uu.se%7Cutmccn=(referral)%7Cutmcmd=referral%7Cutmct=/&__utmv=-&__utmk=32854974).
- Sunstein, Cass R. "Neither Hayek nor Habermas." *Public Choice* 134, no. 1-2 (January 2008): 87-95.
- . "The Law of Group Polarization." *Journal of Political Philosophy* 10, no. 2 (June 2002): 175-195. <https://doi.org/10.1111/1467-9760.00148>.

- Thomas, Timothy. "Russia's Reflexive Control Theory and the Military." *Journal of Slavic Military Studies* 17, no. 2 (June 2004): 237-256. <https://doi.org/10.1080/13518040490450529>.
- Tilly, Charles. *The Politics of Collective Violence*. Cambridge, UK: Cambridge University Press, 2003.
- Warren, Timothy C. "Explosive Connections? Mass Media, Social Media, and the Geography of Collective Violence in African States." *Journal of Peace Research* 52, no. 3 (May 2015): 297-311. <https://doi.org/10.1177/0022343314558102>.
- . "Not by the Sword Alone: Soft Power, Mass Media, and the Production of State Sovereignty." *International Organization* 68, no. 1 (January 2014): 111-141.
- . "The Technology of Statecraft in the Age of Social Media: Idioms of Authority and Radicalization in Nigeria Social Communication." In *Annual Meeting of the American Political Science Association*, 2016, 1-41.
- Wasserman, Stanley and Katherine Faust, *Social Network Analysis: Methods and Applications*. 8. Cambridge, UK: Cambridge University Press, 1994.
- Weinstein, Jeremy M. *Inside Rebellion: The Politics of Insurgent Violence*. Cambridge, UK: Cambridge University Press, 2006.
- Wendt, Alexander. *Social Theory of International Politics*. Cambridge, UK: Cambridge University Press, 1999.

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