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Special Issue “Citizenship, Social Media & Big Data”

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Citizenship, Social Media and Big Data: Current and Future Research in the Social Sciences /
Homero Gil de Zúñiga and Trevor Diehl

Abstract: This issue of *Social Science Computer Review* provides a sample of the latest strategies employing large datasets in political communication research. The proliferation of information communication technologies (ICTs), social media and the internet, alongside the ubiquity of high-performance computing and storage technologies—has ushered in the era of computational social science. However, in no way does the use of “big data” represent a standardized area of inquiry in any field. This article briefly summarizes pressing issues when employing big data for political communication research. Major challenges remain to ensure the validity and generalizability of findings. Strong theoretical arguments are still a central part of conducting good research. In addition, ethical practices concerning *how* data is collected remain an area of open discussion. The article surveys studies that offer unique, and creative ways to combine methods and introduce new tools, while at the same time address some solutions to ethical questions.

Socioeconomic Status, Social Capital, and Partisan Polarity as Predictors of Political Incivility on Twitter: A Congressional District-Level Analysis / Chris Vargo, Toby Hopp

Abstract: Using 414,322 Tweets drawn from 143,404 individual Twitter users located in all 435 U.S. congressional districts, this study employed big data and automated content analysis techniques to explore the degree to which socioeconomic status, social capital potential (i.e., the degree to which a congressional district has the potential for interconnected citizen networks), and in-district partisan polarization were associated with incivility on Twitter during the 2012 presidential election. Broadly speaking, and with some exceptions, the results indicated that election oriented incivility on Twitter was highest in districts that had low socio-economic status indicators, low levels of social capital potential, and low levels of partisan polarity. In its sum, this study shows how large social datasets (i.e., the Census) can be combined with big data to explain social phenomena.

Combining big data and survey techniques to model effects of political content flows in
Facebook / Chris Wells, Kjerstin Thorson

Abstract: This paper introduces a novel method that combines a “big data” analysis of the content of individuals’ Facebook news feeds with traditional survey measures to explore the antecedents and effects of exposure to news and politics content on the site. Drawing on recent theoretical and methodological advances, we demonstrate how such a hybrid approach can be used to (a) untangle distinct channels of public affairs content within respondents’ Facebook newsfeeds, (b) explore why respondents vary in the extent to which they encounter public affairs content on the site, and (c) examine whether the amount and type of public affairs content flows in one’s Facebook can predict political knowledge and participation above and beyond self-report measures of news media use.

Estimating policy positions using social network data: Cross-validating position estimates of
political parties and individual legislators in the Polish parliament / Alejandro Ecker

Abstract: Spatial models are a prevalent feature of modern political science research. Exploring empirical phenomena such as party competition, government formation, and legislative decision-making via spatial models, however, requires valid positional data. While there are several well-established approaches to estimate political actors’ policy positions, a series of pioneering studies have started to uncover the vast potential of social network site data as alternative data source. Adding to this emerging strand in the scholarly literature, the present paper explores the validity of (individual) policy positions derived from the social network structure of the micro-blogging platform *Twitter*. At the aggregate party-level, cross-validation with external data sources suggests that social network site data provide valid policy position estimates. In contrast, the empirical analysis reveals only a moderate connection between individual policy positions retrieved from the social network structure and those retrieved from members’ of parliament individual voting record. These results highlight the potential as well as important limitations of social network site data in indicating the policy positions of political parties and individual legislators.

Citizen-Driven International Network and Globalization of Social Movement on Twitter
/ Qinfeng Zhu

Abstract: Social media offers an avenue for the formation of citizen-driven global networks that are vital to mobilizing international support and curating global public discourse in social movements. This study looks into the global flow of information and communication about Hong Kong’s Occupy Central Movement with a focus on the

country/territory-level international network that emerged on Twitter. Drawing on the world systems theory and the literature on social movement, it examines whether the globalization of a local social movement via social media is circumscribed by the existing order of the world system (i.e., from the developed core countries/territories to the developing peripheral). It focuses its analysis on the network structure and the predictors of countries/territories' centrality in the network. Findings of the social network analysis show that the structure of the international network still follows the existing order of the world system to a large extent. It is further supported by the result of the multivariate analysis that national income, a widely used benchmark for determining a country/territory's position in the world economy, is significantly and substantially related to centrality. However, national income does not have the largest predicting power. Instead, a country/territory's level of political grievances is found to be the strongest predictor. In addition, countries/territories with high Internet penetration rates tend to have high centrality scores, and yet the effect size is smaller than the other predictors.

Swearing Effects on Citizen-to-Citizen Commenting Online: A Large-Scale Exploration of Political vs. Non-political Online News Sites / K. Hazel Kwon, Daegon Cho

Abstract: Swearing, the use of taboo languages tagged with a high level of emotional arousal, has become commonplace in contemporary political culture. The current study attempts to understand the ways in which swearing influences citizen-to-citizen news commenting online. Based on a large corpus of the two-month user comments from 26 news websites in South Korea, the study examines swearing effects as well as its interplay with anonymity on garnering public attention and shaping other users' perceptions of the comments. Findings suggest that swearing generally has a positive effect on increasing user attention to comments as well as gaining other users' approvals. Comparisons between political and non-political topics further suggest that swearing effect on gaining public attention is particularly prominent for political discussions. In contrast, the magnitude of change towards positive valence in public perception to comments is much greater for non-political topics than for politics. From the findings, we conclude that an acceptable degree of swearing norms in online discussions vary across news topical arenas. The results also lead to discussions about the possibility of likeminded exposure to political comments as a default condition for online discussions. Finally, the study highlights the role of high-arousal emotions in shaping discursive participation in contemporary networked socio-digital environment.

Facebook is no "great equalizer": A big data approach to gender differences in civic engagement across countries/ Petter Bae Brandtzæg

Abstract: Facebook is expected to facilitate more equal participation in civic engagement across genders and countries. With the use of a big data tool (Wisdom), we explored gender disparities in various *Facebook liking practices* concerning expressions of civic engagement among 21,706,806 Facebook users in ten countries across Asia, Africa, the Americas, and Europe. We observed distinct patterns with regard to civic and political expressions on Facebook, with males drawn more toward politically and information-oriented liking practices as compared to females. Moreover, females (aged 13–28 years) in Europe and the Americas are more likely than males to support humanitarian aid and environmental issues on Facebook. This latter finding was not evident in Asia and Africa, where males are more active in liking all forms of civic expressions on Facebook. In conclusion, this study shows that the gender differences in civic engagement that exist offline to a large degree are replicated and reinforced on Facebook.

Big Data and Political Social Networks: Introducing Audience Diversity and Communication Connector Bridging Measures in Social Network Theory / Axel Maireder, Brian E. Weeks, Homero Gil de Zúñiga, Stephan Schlägl

Abstract: Social media have changed the way citizens, journalists, institutions, and activists communicate about social and political issues. However, questions remain about how information is diffused through these networks and the degree to which each of these actors are influential in communicating information. In this study we introduce two novel social network measures of connection and information diffusion that help shed light on patterns of political communication online. The Audience Diversity Score assesses the diversity of a particular actor's followers and identifies which actors reach different publics with their messages. The Communication Connector Bridging Score highlights the most influential actors in the network who are potentially able to connect different spheres of communication through their information diffusion. We apply and discuss these measures using Twitter data from the discussion regarding The Transatlantic Trade Investment Partnership (TTIP) in Europe. Our results provide unique insights into the role various actors play in diffusing political information in online social networks.