Research Proposal

Communication Strategies of Governments in Public Health Emergencies: A case study of governmental roles against COVID-19 in mainstream media reporting in China and United Kingdom

Introduction

This study plans to select COVID-19 as a starting point and select one Chinese media platform Weibo (Chinese Twitter) and Twitter in UK as a case to study the communication strategies of local governments. This research proposal will outline a plan to conduct a text mining into COVID-19-related news on the social media, aiming to explore how local governments used mainstream media to minimize national loss. Further analysis will be conducted by comparing different social media accounts in different countries, such as the Weibo in China and Twitter in UK.

This research will not only explore the patterns of health communication in online social media during public health emergencies, but also contribute some experience to related departments to get the priority to lead the audience and guide public rational behaviors effectively, which can even save one person's life in certain circumstances. The conclusion of this topic also help governments to strengthen abilities of crisis management and enhance the quality of online communication when analogous events broke out next time.

Considering the characteristics of COVID-19,self-isolation at home and proper social distance is required. Social media is increasingly trusted by citizens globally to get latest news including death tolls, diffusing tracks, preventive measures and other medical suggestions against COVID-19. For example, in China, bidirectional communication has been conveyed on Weibo by Netizens and government social media accounts. On one hand, mainstream media reports newest data from the central government such as daily report about the latest progress against COVID-19 to audience. On the other hand, Netizens use the comment function on Weibo to response, make consultations and share emotions to mainstream media. Netizens also report their first-hand news details under the official account which may be helpful to conduct further investigations and professional treatments. Since the COVID-19 spread globally, different countries have established distinct strategies to conduct online scientific and disease propagation, which received mixed reviews in their state media. By using different reporting frame, mainstream media guides audience to discuss certain topics and the roles of mainstream media varies from one nation to another (Kretuter & Mcclure, 2004).

Literature Review

Due to the uncertainty of intending spread, the studies about COVID-19 mostly stagnate in the phase of data collection of keyword-related or hashtag-related posts generated by users based on Twitter. Therefore, this literature review will probably contribute to three dimensions in previous studies: (1) discussing public health incidents based on sociological theory; (2) updating existing outcomes in media communication studies and discussing the latest COVID-19 outbreak; (3) innovation of the comparison study based on the government-led online communication, exploring the reasons for the differences in communication strategies between the UK and

China.

Definition of public health emergencies

Public health emergencies (PHE) means sudden outbreaks of mass infectious diseases, mass colonial unexplained diseases, serious food and occupational poisoning and other events that seriously affect public health and cause serious damage to public. Emergencies has these characteristics (Dong, 2010): unpredictability and complexity, high-attention concentration and high-risk, strict requirement of timely solutions. Countries across the world have define their own PHE preparedness and response in laws and regulations, for example, '*Law of the People's Republic of China on Prevention and Treatment of Infectious Diseases'* and '*National emergency plan for public health emergencies'* in China and *'the All-Hazards Preparedness Act (PAHPA)'* in the USA. The objective of emergency preparedness and response is to improve the countries' ability to detect and respond to an array of PHE (Vernick et al., 2007). Beyond the biological threats, the preparedness in sociology concentrates on coping with hybrid social networks, which contains redefining in three dimensions: boundary between event and non-event; boundary between internal and external in institutions; physical boundary between secure and insecure spaces (Canada, 2019). This study will fall in the second category and focus on institutional participation.

Although emergencies are impossible to predict, media communication strategies can be prepared and well-constructed in advance beyond only responding to the results, in which clear media messages can relieve the worried public, reduce misinformation and highlight urgent measures (World Health Organization , 2005). However, authors of the existing studies mostly come from the background of medicine, public health, computer science and etc., using their statistical models to explain or monitor the emergencies. This disconnect between public health issues and frameworks in sociology makes the research outcomes difficult for media practitioners to copy. As for authors from media communication backgrounds, they mostly regard PHE as a form of crisis to illustrate how crisis communication principles fit or update in the practice of public health. However, current studies lack in-depth evaluation of the event-specific crisis communication efforts (Glik, 2007). Therefore, this study will try to fill in this gap by choosing COVID-19 as a specific case to explore how media messages matter in the framework of sociology .

Epidemics and Media Communication in Social Media

The reporting of epidemics and other general health topics have been involved in media communication studies from the traditional media stage. Recently, many studies have explored the uses and benefits of social media in health communication context, of which may probably improve the general health outcomes (Moorhead et al., 2013).

On one hand, many studies talked about the audience side, who expressed concerns about infectious disease outbreaks or contributed dialogues to health topics. Previous studies have discussed user perceptions and discourse related to one or more epidemics such as H7N9, MERS-CoV (Fung et al., 2013), epidemic influenza (Kim et al., 2013), African Ebola (Saxon et al., 2019) and COVID-19 (Dodds et al., 2020; Gao et.al, 2020; Lopez, Vasu and Gallemore, 2020). Studies in this category frequently mentioned topic classifications. The study by Fung et al. identified five categories of information contributing to the increased traffic related to 42 infectious diseases in Weiboscope database. The study by Li et al. (2020)　also identified COVID-19 related information into seven types of situational information (such as caution and advice,notifications, donations, emotional support and etc.).

On the other hand, several studies shed light on the public surveillance side, and the role of surveillance provides convenience for government interventions. For example, in United States, it is beneficial for public health system components such as local health departments (LCD) to engage in social media (Harris et al.,2013)., though the social media usage by LCD primarily involves one-way information about personal health topics and organization-related information (Neiger et al., 2013). Studies also regard social media as efficient tools to predict or monitor outbreaks of epidemics, such as predicting directions of influenza prevalence through Twitter in United States (Broniatowski, Paul and Dredze, 2013), monitoring flu through symptom-related statements in Twitter in China (Cui et al., 2015) and UK (Lampos and Cristianini, 2010), and predicting cholera outbreak (Chunara, Andrews and Brownstein., 2012). Since the construction of prediction models contains statistical analysis and algorithm in computer science, this study will concentrate on the media communication field to explore the communication strategies by local authorities.

In western countries, several researchers have noticed the importance of social media data in understanding people's behaviors of sharing information and perception in COVID-19 period, which provide references for methodology in this research (Lopez, Vasu and Gallemore, 2020; Gao et.al, 2020; Chen, Lerman and Ferrara, 2020). Due to the unpredictability of the spread of epidemics in Western countries, these studies still continue in Twitter, which mainly collect English posts. Given the topic difference in user interests in health information between UK and China (Paul, Dredze and Renaud, 2011; Wang, Paul and Dredze, 2014), it is worthy to compare how local-government-related news vary in social media from each other to cater for domestic needs when responding to COVID-19 (Greer et al., 2020). Therefore, this research will fill this gap by including Chinese posts in Weibo and summarizing the communication patterns behind the figures. Beyond the previous focus on general users' discourse, this research will highlight the role of governments in UK and China from how their images are shaped by news in mainstream media.

RQ1:How were the British and Chinese governments reported by local mainstream media accounts in social media?

RQ2:How did news in mainstream media act as key mediators of governments to communicate with their publics in relation to a public health crisis?

State, Public and Social Media

The government's public health communication based on social media is a reflection of the country's overall communication strategy, and also an external manifestation of local media control. Negrine's mass communication study in 1994 suggests that cooperation with mass media helps authorities to impress their own definitions of the world (such as setting the agenda for debate, giving meanings to events, shaping political climate and etc.), which make it essential for scholars to take account of relationships between media and those in power. Furthermore, mass media allows for continuity, since it reflects past and present political/social and cultural referents, and contributes to them at the same time. In order to understand the motivations behind social media contents, we first need to understand the existing relationship between the country and social media.

State and Media in China
Based on the complexity and particularity of Chinese society and government, some previous studies focused on the relationship between the Chinese government and the media. According to Akhavan-Majid (2004), on one hand,

the Internet content provider, as private enterprises, is seeking for creatively renegotiating party-state policy with tacit approval and cooperation with bureaucratic authorities. On the other hand, the Chinese local authorities is shifting from 'ideological supervision' to collaboration with private investors with increasingly relaxed media control.

However, while the *media model with Chinese Characteristics* still makes efforts to keep up with the pace of socio-economic changes and queries for information from public, the precondition is that the Chinese Communist Party (CCP) still control and own the majority of Chinese media. CCP propaganda authorities continue to monitor and censor contents related to certain sensitive political issues. Because stability in reporting is crucial for both media and governments especially in political reporting, though the Chinese media can inform the public impartially when it comes to positive contents and news (Welle-Strand, 2011). This tendency has continued in the Internet age. Chinese social media,as a sophisticated medium of public communication, possesses decentralized structures of Internet and user anonymity, which makes editorial control increasingly difficult and may impede the growth potential of economy. But CCP is also adopting heavy-handed intervention in social media, especially avoiding sensitive topics in the news section and restricting commercial internet content providers, as they did in the print and broadcast media (Volland, 2003). To some degree, social media may not have potential to erode authoritarian regimes and to foster democracy.

State and Media in UK

Additionally, in UK,the relationship between the government and the media is looser than China. Compared to previous discussion on the state control of media, a study in political science and policy (Jennings et al., 2013) found that the direction of influence may be reversed in UK. Compared to Chinese media preferences in positive reporting, in UK, reporting crisis may increase public attention than stable issues, while even dominant issues may not always receive public attention without a crisis.The media contents closely follows the government's executive and legislative agendas, and volatile agendas in news may be likely to lead to change in government agendas as return. This interaction is rarely discussed in the Chinese context.

Furthermore, the government's flexible control over the media is mainly indirect, such as economic sanctions, ordering the media to self-manage, or encouraging industry self-discipline. The government's promotion of reforms is relatively soft, which stands in contrast with China's adoption of market-oriented operations and strengthening of hard control by the media (Wu and Lin, 2005). As a commercial enterprise, newspapers are controlled by capitalists and journalists. British newspapers do not belong to the government or any political party, but each newspaper has different degrees of political inclination (Hu,1993). In contrast, *the Professional Code of Ethics for Chinese Journalist*（*中国新闻工作者职业道德准则*） defined Chinese media as a bridge which'unify the expression of the party's propositions and reflect the aspirations of the people', which explicitly pointed out the leading role of CCP in Chinese media.

Comparisons between UK and China

Similarities can still be found in the social media between China and the West in three aspects (Fuchs, 2015): (1)Internet surveillance is a global political-economic reality since all social media applies monitoring technologies, big data analysis and predictive algorithms to prevent crime and terrorism.(2)Social media companies both in the West and China enjoy low- or no-tax priorities.(3)Social media shares similar economic structures that it relies revenues of selling user data as a commodity for online advertising.

Besides, there are differences in public consumption of local social media, Asur, Yu and Huberman's study in 2011

analyzed trending topics both in Weibo and Twitters, as well as the users who created these topics. After observing top 20 influential authors which appearing in at least 10 trending topics, this study found these authors focused strongly on trivial contents like collecting user-contributed jokes, movie trivia, quizzes and stores, while the top 20 list in Twitter was occupied by popular news sources and media organizations such as CNN, the New York Times and ESPN. This increasing use of social media and relevance to news consumption in UK has been checked in Newman, Dutton and Blanks's study (2012) in Internet Science. The study demonstrates a clear trend of more Internet users coming to the mainstream media news page from links in social media, such as the traffic to BBC from Facebook and Twitter tripled between 2009 and 2011. The links between the two was particularly remarkable during breaking news events. For instance the referrals from social media to BBC news site rose by a factor of five on the day of 2011 Japanese earthquake.

Since characteristics of platform and information consumption differ between Weibo and Twitter, the social media itself may influence the communication strategies from governments to audience. In order to make the contrast more specific, this study attempts to choose COVID-19 as a case. Based on the survey in Reuters Institute Digital News Report (2020) conducted in six countries[1] in January and April 2020, COVID-19 has increased news consumption from social media 42% to 47% in this period in UK. In the survey in April, 43% participants used both social media for news and traditional media sources weekly. This report commented social media as an effective support for citizens at the time of anxiety and isolation, but the 'trust halo' for media might also be short-lived. Unfortunately, China was not included in this survey.

To sum up, few studies have specific focus on either the Chinese social media use in practical issues (the focus tend to be analysis of historical evolution paths of Chinese media system), or make comparisons with the social media operation towards the same issue, though there is no fixed standard of what the social media's role should be. Therefore, my study will use COVID-19 as a global agenda to explore national differences in social media between UK and China, which will contextualize the comparison study into current issues.

RQ3: How did elements in two different national contexts lead to similarities and differences in communication strategies responding to COVID-19?

RQ4: How did local publics respond or engage to these communications?

Methodology

As discussed in literature review, Twitter users showed a strong preference for news consumption, with a large number of mainstream media becoming the channel of government propaganda during the epidemic. The relationship between Chinese mainstream media and governments is closer, displaying an obvious cooperation between media accounts and governments. In order to decrease low-impact and unnecessary samples from low-influence media and to reduce the noise in user-generated content, this study will focus on collecting mainstream media contents in the UK and China, and filter out government-related from them.

Data Collection

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[1] Countries include UK, USA, Germany, Spain, South Korea and Argentina

The research will try best to explore communication patterns in all stages of COVID-19, discussing challenges and changes in four stages of crisis (i.e. prodromal, breakout, chronic and resolution). Based on the difference in time between the two countries in fighting the epidemic, this research plans to set different sample periods.

According to *Fighting COVID-19: China in Action*, the official summary published by the State Council Information Office of the People's Republic of China, China citizens experienced five stages during COVID-19. Corresponding to the official timeline, the sample period in Weibo ranges from December 2019 to May 2020:
(1)December 27, 2019-January 19, 2020: Swift response to the unknown public health emergency;
(2)January 20, 2020-February 20, 2020: Initial progress in containing the virus;
(3)February 21, 2020-March 17, 2020: Newly confirmed domestic cases on Chinese mainland drop to single digits;
(4)March 18, 2020-April 28, 2020:Initial Victory in Wuhan, Hubei Province;
(5)April 29, 2020-May 18,2020 :Ongoing prevention and control, and this study purposely ends on May 18, when President Xi delivered a speech at the opening of the 73rd World Health Assembly.

Since UK is still experiencing COVID-19, the timeline in UK is not offically published, this research will set the timeline according to World Health Organization (WHO) summary (2020). The sample period will start from February 2020, while the end date is undecided:
(1)February 11, 2020- March 3, 2020: from WHO officially named COVID-19 to confirmed cases over 1,000;
(2)March 4, 2020- May 1, 2020: confirmed cases increased sharply from March and displayed a decline in May; with highlight on March 27 and April 7 when the country's top leader and prime minister Boris Johnson was diagnosed.
(3)May 2, 2020- Now: Further divisions are required.

The data will be collected using mixed methods of official API and Crawler tools (e.g. *Phython, KNIME, Bazhuayu in China*) considering the limitations of official API, while further adjustments in collection methods will conducted in the trial dataset. Since Twitter has limited access in historical posts, the Tweets collection will conducted every week continuously in order to track the latest posts in mainstream media. As for historical posts, this research attempts to access the corresponding Tweets' links from mainstream media websites (e.g. BBC website), which provide separate links available for Crawler tools to track contents original posts.

Data Analysis
The content analysis is divided into three stages, including original posts, user engagement and user perception.
(1)Posting time and frequency: In original posts, daily frequency of posts are considered as traffic volume, which reflects how much accounts post and change with the crisis.
(2) Issue mapping: This research will use KNIME to explore the co-occrrence of word cluster in Weibo and co-occrence of hashtag in Twitter, which provide reference in defining topics in online discussion. Topics and internal networks may help to explain the issue mapping on how COVID-19 become a controversy in social media (Burgess & Matamoros-Fernandez, 2016).
(3)Correlation analysis: As for the user engagement, numbers of likes, retweet and comments provide statistical evidence to measure user popularity with varied topics.
(4)Manual coding in contents analysis: Besides, in the coding part of content analysis, the information source and reporting intonation will be include to discuss how mainstream media reports government measures.

Though this research concentrates on analysis of communication strategies in the view of communicator and social

media text rather than receivers' changes in behaviors or attitudes, measurements may conducted in the form of online surveys which evaluate the influence of crisis communication within two countries. Furthermore, this research will make a comparative analysis based on the collected data, which involve changes in crisis communication in different public health emergencies in chronological order,such as SARS, Sanlu Toxic Milk Power, H7N9,COVID-19.

Research Ethics

Although the research mainly relies on data contributed by governments and media accounts, it may involve posts or comments generated by users in Twitter and Weibo, which may bring ethical concerns for further analysis. Generally speaking, data from Twitter and Weibo is public. Based on default characteristics in Twitter and Weibo, users expect their contents to be observed by strangers in these public spaces. For instance, the hashtag analysis may not conflict with individuals' interests, for users expect to contribute disclosure to interesting community groups. The research may retrieve public data, which does not require further permission from gatekeepers or admission staffs. Besides, since all data in this research is related to COVID-19 which considered to be a global, public health emergencies, this research may not involve illegal or sensitive data. Overall, this research need to refer to all terns and conditions of platforms to obtain data legally (Townsend and Wallace, 2016).

Since the research focus on communication strategies by governments, direct quotes will be mainly used when referring to public figures or organizations, such as officers or news institutions. However, the news may probably cover comments from vulnerable participants, such as infected patients and their families. Because of the scale of dataset, it is problematic to seek for consent to all mentioned users. In order to minimize the potential harm to the vulnerable groups, this research may use anonymity or paraphrase users' comments. The data will not be publish due to this, supplementing details how to recreate the dataset. Special attention will be paid in paraphrasing tweets, since users' profiles are hardly to identify after Chinese-English translations in Weibo.

Progress Plan

2020: Data collection phase.I plan to participate a research-degree studying in this academic year, which may enhance my ability of social science data collection and basic quantitative research skills. Meanwhile I plan to use crawler software, such as python, to collect raw data(posts) from Weibo and Twitter in case the failure of access later. In this year, I will concentrate on the software and statistical software study to compensate the lack in statistical knowledge.

2021:Research preparing phase. After finishing the first year in research skill learning, I will start designing the research and make specific timetable. I plan to conduct my research this year,which basically can be divided into 3 parts: supplement and collate post data; supplement knowledge in crisis communication and health communication; do data processing and dig into the underlying principles.

2022: Researching Summary phase. I will go deeper from collected data and try to fill in the gap referring the current search. I will focus on innovation in theory this year,especially the combination of health communication and crisis communication.

2023: Final writing phase. I will integrate previous efforts and make revisions of data calculation. Finally I will

accomplish all contents in study with the instructions from supervisors.

Bibliography

Akhavan-Majid, Roya. (2004). Mass media reform in china toward a new analytical framework. Gazette the International Journal for Communication Studies, 66(6), 553-565.

Asur, S. , Yu, L. , & Huberman, B. A. . (0). What trends in chinese social media. Social ence Electronic Publishing.

Broniatowski, D. A. , Paul, M. J. , & Dredze, M. . (2013). National and local influenza surveillance through twitter: an analysis of the 2012-2013 influenza epidemic. Plos One, 8.

Burgess, Jean, & Matamoros-Fernández, Ariadna. (2016). Mapping sociocultural controversies across digital media platforms: one week of #gamergate on twitter, youtube, and tumblr. Communication Research & Practice, 2(1), 79-96.

Cañada, Jose A. (2019). Hybrid threats and preparedness strategies: the reconceptualization of biological threats and boundaries in global health emergencies. Sociological Research Online, 24(1), 93-110.

Chen, E. , Lerman, K. , & Ferrara, E. . (2020). Tracking social media discourse about the covid-19 pandemic: development of a public coronavirus twitter data set.

Chun-Hai, F. I. , Yi, H. , Jingxian, C. , Yuchen, Y. , James, S. B. , & Mengxi, Y. C. , et al. (2015). Chinese social media reaction to information about 42 notifiable infectious diseases. PLOS ONE, 10(5), e0126092.

Chunara, R. , Andrews, J. R. , & Brownstein, J. S. . (2012). Social and news media enable estimation of epidemiological patterns early in the 2010 haitian cholera outbreak. American Journal of Tropical Medicine & Hygiene, 86(1), 39-45.

Dodds, K. , Broto, V. C. , Detterbeck, K. , Jones, M. , & Woon, C. Y. . (2020). The covid-19 pandemic: territorial, political and governance dimensions of the crisis. Territory Politics Governance, 8(3), 289-298.

Fuchs, Christian. (2016). Baidu, weibo and renren: the global political economy of social media in china. Asian Journal of Communication, 26(1), 14-41.

Fung, I. , Fu, K. , Ying, Y. , Schaible, B. , Hao, Y. , & Chan, C. , et al. (2013). Chinese social media reaction to the mers-cov and avian influenza a(h7n9) outbreaks. Infectious Diseases of Poverty, 2(1), 31-31.

Gao, Z. , Yada, S. , Wakamiya, S. , & Aramaki, E. . (2020). Naist covid: multilingual covid-19 twitter and weibo dataset.

Glik, Deborah, C. . (2007). Risk communication for public health emergencies. Annu Rev Public Health, 28(1), 33-54.

Greer, S. L. , King, E. J. , Fonseca, E. M. D. , & Peralta-Santos, A. . (2020). The comparative politics of

covid-19: the need to understand government responses. Global Public Health(2), 1-4.

Harris, J. K. , Mueller, N. L. , & Snider, D. . (2013). Social media adoption in local health departments nationwide. American Journal of Public Health, 103(9), 1700-1707.

Hodge, J. G. , Gostin, L. O. , & Vernick, J. S. . (2007). The pandemic and all-hazards preparedness act: improving public health emergency response. Jama, 297(15), 1708.

Hyer, Randall N, Covello, Vincent T, & Pandemic Alert. (2005). Effective media communication during public health emergencies : a WHO handbook. World Health Organization.

Hu. (1993). 英国政府与传播媒介. 欧洲(04), 47-51.

Jennings, W. , John, P. , Bertelli, A. , & Bevan, S. . (2013). Policy Agendas in British Politics. Palgrave Macmillan.

Kreuter, M. W. , & Mcclure, S. M. . (2004). The role of culture in health communication. Annu Rev Public Health, 25(1), 439-455.

Kim, E. K. , Seok, J. H. , Oh, J. S. , Lee, H. W. , & Kim, K. H. . (2013). Use of hangeul twitter to track and predict human influenza infection. Plos One, 8(7), e69305.

Lampos, V. , & Cristianini, N. . (2010). Tracking the flu pandemic by monitoring the social web. International Workshop on Cognitive Information Processing. IEEE.

Lopez, C. E. , Vasu, M. , & Gallemore, C. . (2020). Understanding the perception of covid-19 policies by mining a multilanguage twitter dataset.

Li, L. , Zhang, Q. , Wang, X. , Zhang, J. , Wang, T. , & Gao, T. L. , et al. (2020). Characterizing the propagation of situational information in social media during covid-19 epidemic: a case study on weibo. IEEE Transactions on Computational Social Systems, 7(2), 556-562.

Negrine, Ralph. (1979). Politics and the mass media in UK. Media Culture & Society, 1(1), 23-34.
Newman, Nic, Dutton, William H, & Blank, Grant. (2012). Social media in the changing ecology of news: the fourth and fifth estate in UK. International Journal of Internet ence, 7(1).

Neiger, B. L. , Thackeray, R. , Burton, S. H. , Thackeray, C. R. , & Reese, J. H. . (2013). Use of twitter among local health departments: an analysis of information sharing, engagement, and action. Journal of Medical Internet Research, 15(8), e177.

Newman, Nic, Dutton, William H, & Blank, Grant. (2012). Social media in the changing ecology of news: the fourth and fifth estate in britain. International Journal of Internet ence, 7(1).

Paul, M. J. , Mark, D. , & Renaud, L. . (2014). Discovering health topics in social media using topic models.

Plos One, 9(8), e103408.

Saxon, B. ， Bass, S. B. ， Wright, T. , & Panick, J. . (2019). Ebola and the rhetoric of us newspapers: assessing quality risk communication in public health emergencies. Journal of risk research, 22(9/10), 1309-1322.

Volland, Nicolai. (2003). The control of the media in the people's republic of china. Philosophy.

Greer, S. L. ， King, E. J. ， Fonseca, E. M. D. , & Peralta-Santos, A. . (2020). The comparative politics of covid-19: the need to understand government responses. Global Public Health(2), 1-4.

Wu, Fei, & Lin, Min. (2005). Government regulation and media self-discipline ——initial studies on features of british media regulation. journal of zhejiang university(humanities and social sciences).

Cui, Xiaohui, Yang, Nanhai, Wang, Zhibo et al. (2015). Chinese social media analysis for disease surveillance. Personal & Ubiquitous Computing.

Dong, Juan. (2010).Public health emergency information sharing and linkage mechanism——Taking SARS and H1N1 Influenza as cases, Central China Normal University.
https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD2010&filename=2010136640.nh

Leanne Townsend, Claire Wallace (2016). Social Media Research: A Guide to Ethics. Retrieved September 4, 2020, from https://www.utwente.nl/en/bms/research/forms-and-downloads/socialmediaresearchethics.pdf

Reuters Institute. (2020). Reuters Institute Digital News Report 2020. Retrieved September 4, 2020, from https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2020-06/DNR_2020_FINAL.pdf

Wang, S., Paul, M., & Dredze, M. (2014). . In AAAI Workshops. Retrieved from https://aaai.org/ocs/index.php/WS/AAAIW14/paper/view/8721

Welle-Strand, K. (2011). *Chinese Media's Changing Relations to Government, Market and Public.* Retrieved September 4, 2020, from https://core.ac.uk/download/pdf/30817195.pdf

World Health Organization. (2020, September 5). WHO Coronavirus Disease (COVID-19) Dashboard. Retrieved September 5, 2020, from https://covid19.who.int/

中华全国新闻工作者协会第九届全国理事会第五次常务理事会 (2019, December 15). 中国新闻工作者职业道德准则(*the Professional Code of Ethics for Chinese Journalist*) . Retrieved September 4, 2020, from http://www.xinhuanet.com/politics/2019-12/15/c_1125348618.htm