Civic Engagement within China: Exploring the Influence of Social Network Sites Use, Media Exposure, Internet Censorship, Political Attitudes and Social Capital

by

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ABSTRACT

The China smog is a severe air pollution issue that has damaging effects on the health of millions of Chinese nationals and contributes to global warming. In the context of the China smog, this study examined civic engagement on social network sites (SNS) and in real life among Chinese nationals utilizing theories of uses and gratification, the effects of Internet use, media exposure, Internet censorship, political efficacy, trust and social capital. Six hundred and eighty eight Chinese nationals who are currently studying, working or residing in China completed online questionnaires. In general, the results of this study showed that a combination of high needs for recognition of SNS use and low needs for entertainment of SNS use is related with increased civic engagement. The results of this study also revealed that civic engagement is positively related with attention to content about the China smog on mobile Internet, external political efficacy and social capital.

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CHAPTER 1

INTRODUCTION

In context of air pollution in China, this dissertation investigates civic engagement among Chinese nationals. In particular, it explores participation in the China smog through SNS and in real life. During the past few years, the number of Internet and social network sites (SNS) users of China has been growing exponentially. Uses of Internet and SNS have affected participation in social and political issues, information seeking, social interaction, entertainment, shopping and many other areas of life and work of Chinese nationals (Cheng, Liang & Leung, 2014; Wang, Lau & Gong, 2016; Yang, 2014; Zhang & Pentina, 2012; Zhou, 2010). By December 2015, the number of Internet users in China reached approximately 680 million, with over 60% of them preferring to access Internet on smartphones (Lee, 2016). As of May 2014, more than 60% of Internet users in China were aged between 15 and 34 (Statista, 2017a). By 2015, the average online time of Internet users in China has increased to 26.2 hours each week (Statista, 2017b). The average Internet user in China, whose age is between 16 and 30, spends almost 28 hours per week on mobile Internet, suggesting that they spend 5 hours more per week than the global average for Internet users who are at the same age (eMarketer, 2015). In 2016, the most five popular Internet activities in China were instant messaging, search engine, news, SNS apps and videos in terms of the number of users (Statista, 2017c). From 2014 to 2016, the number of SNS users of China increased from 453 million to 514 million (Statista, 2017d). In 2014, nearly 85% of SNS users in China accessed SNS through mobile devices (Kantar, 2015). According to the China Internet Network Information Center (CNNIC), about 61% of SNS users in China spend 30 minutes on SNS on average

daily in the year of 2015 (CNNIC, 2016). From 2013 to 2015, the average age of SNS users in China increased from 28.7 years to 31.8 years (Kantar, 2016). As of August 2015, WeChat (a WhatsApp like messaging app), Q-Zone and Weibo (a microblogging site) became the three most frequently used SNS in China (Statista, 2017d). Further, consuming video/audio content, instant messaging, sharing and forwarding information, sending/receiving short messages and following interesting topics were the top three leading activities among SNS users in China (Statista, 2017e).

More importantly, the uses of Internet and SNS have fostered civic engagement within China (Bondes & Schucher, 2014). Technological affordances have provided alternative ways for Chinese nationals to participate in social and political issues. Specifically, SNS, bulletin board system (BBS), blogs and other similar Internet-based applications have promoted participation in civic life by establishing connections between citizens across different areas, allowing like-minded individuals to debate issues of common concerns on a same platform, reducing cost and effort for obtaining information, increasing the amount and the diversity of information, and accelerating dissemination of information (Easery & Qiang, 2012; Kaufhold, Valenzula & Gil de Zúñiga, 2010; Scheufele & Nisbet, 2002; Semaan, Robertson, Douglas & Maruyama, 2014; Wu, 2014). In 2006, for example, Internet users in China posted a large number of blogs to express personal opinions on a powerful political figure of Shanghai who was dismissed by the Chinese central government due to corruption (Zhou, 2009). During July 2011, more than 10 million Chinese nationals engaged in the Wenzhou train collision incident on Internet by discussing and sharing information about the issue, commenting on social justice, corruption, and other contentious issues that are associated

with rapid development of China's economy, and venting discontentment with the government institutions of China (Bondes & Schucher, 2014; Sullivan, 2014).

Although there has been a marked increase in research investigating the influence of uses of Internet and SNS on civic and political engagement, there is much less research on both online and offline civic engagement in authoritarian regimes like China. Air pollution, which is currently a major environmental issue of China, is an ideal context for studying civic engagement in real life and on SNS among Chinese nationals. Air pollution threatens the health of millions of Chinese residents and contributes to global warming (Pandey, 2015). Each year, approximately 1.4 million people die in the country because of air pollution (Pandey, 2015). One key form of air pollution is smog, which has smothered many parts of this country such as major regions in northern China (National Geographic [NG], n.d.; Li, 2016). Coal combustion, motor vehicles, industrial production and dust are four primary sources of particulate matter (PM) and thus generate considerable amounts of smog (Bai, 2015). According to the United States Environmental Protection Agency (USEPA), inhaling PM "can affect the heart and lungs and cause serious health effects" (USEPA, n.d.). The particulate pollution does not only cause severe breathing problems, but also result in low visibility (Millner, 2015). As a response, the Chinese government has declared "war" on the pollution issue, showing their firm resolution to combat the pollution ("What is China," 2016). Recently, multiple cities in northern China have issued "red alerts" which represent "the highest level of a four-tier warning system introduced as part of China's high-profile war on pollution" (Phillips, 2016). The red alerts prompted a succession of regulations and preventive measures ("China issues national," 2017; Cendrowski, 2016). For instance, some local

authorities have ordered schools and kindergartens to cancel their classes and factories to close or reduce their production (McLaughlin, 2016). In Beijing, high-emission vehicles were banned from driving on roads (Phillips, 2016). In Tianjin, the metropolis next to Beijing, the smog caused hundreds of flights to be cancelled and highways to be closed (Merchant & Zhang, 2016).

At the same time, Chinese residents in affected regions have actively engaged in this pollution issue both on Internet and in real life. In high pollution days, most people wear masks for protection against pollution when they are outside (McLaughlin, 2016). Some ordinary Chinese citizens have participated in a number of online as well as face-to-face (FtF) activities initiated and coordinated by environmental nongovernmental organizations (ENGOs) in major cities of China, including Beijing, Shanghai, Wuhan, Chongqing, and Wenzhou (Xu, 2014). The FtF activities involved lectures on pollution data, air-testing trips, fundraising events, vegetable shopping trips and other "informal and diffused" forms of collective action (Xu, 2014). Through SNS like WeChat, blogs and microblogs, the citizens obtained updates of air quality logs, donated money to the ENGOs, discussed air pollution data, and expressed concerns about the issues (Xu, 2014). For instance, a few ordinary citizens documented the weather with cameras and posted the photos onto SNS, and the photos comparing landmark buildings before the smog to landmark buildings after the smog have triggered many comments and discussion (Boykoff, 2016). Others have used SNS like Weibo and WeChat as channels for venting their frustrations and outrage, voicing their fear and hopelessness and criticizing the authorities (Boykoff, 2016). For instance, some microblog users commented on the issue with sarcasm and humor under hashtags such as #AirPollutionRedWarning and

#TheHazeisBackAgain (Allen, 2015). In this sense, Internet potentially "foster a citizenry that is increasingly knowledgeable about public policy issues and collective problems and promote civic participation and public deliberation" within China (Zhou, 2010, p. 1005).

This project seeks to increase our understanding of online and offline civic engagement among Chinese nationals within the context of the China smog. Specifically, it examines the influences of SNS use, media exposure, Internet censorship, trust, political efficacy and social capital on civic engagement. Although the relationships between civic engagement and some of the factors mentioned above have been widely researched in context of democratic regimes, they are under researched in China and other similar authoritarian regimes. The findings of the current study may provide an innovative framework to comprehend participation in multiple environmental and social issues within countries that share similar social, cultural and political contexts with China, though it focuses on civic engagement and a particular air pollution issue of China. In addition, this study offers insights into the role of information and communication technologies (ICTs) such as SNS, mobile app and Internet, in civic life and new democratic processes in China.

Pragmatically, a more nuanced understanding of civic engagement can aid the Chinese government and a few non-governmental organizations (NGOs) in identifying Internet users who are likely to engage in environmental and social issues of China, both on SNS and in real life. Moreover, this research illuminates social and political factors that may inhibit or facilitate civic engagement. Theoretically, this study serves to extend research on trust, political efficacy, Internet censorship, social capital, media exposure and uses and gratifications theory (UGT) by focusing on how uses of SNS and Internet

and social and political influences can help us understand participation in air pollution issues among lay people of authoritarian regimes for public goods.

CHAPTER 2

LITERATURE REVIEW

This chapter presents a review of literature on definitions of civic engagement, Internet and SNS use, media exposure, UGT, Internet censorship of China, social trust, trust in government, internal and external political efficacy, and social capital.

Civic engagement is defined as "ways in which citizens participate in the life of community in order to improve conditions for others or to help shape the community's future" (Adler & Goggin, 2005, p. 236). It is also conceptualized as "a process in which individuals take part in decision making in the institutions, programs, and environment that affect them" (Heller, Price, Reinharz, Riger & Wandersman, 1984, p. 339). Broadly speaking, civic engagement includes "both behaviors and attitudes" associated with "political and quasi-political processes and institutions" (Leung, 2009, p. 1331). It plays a significant role in "the health and functioning of democratic societies" (Shah, Cho, Eveland, & Kwak, 2005). Specifically, civic engagement influences socioeconomic development and enhances responsiveness and accountability of governments (National Democratic Institute [NDI], 2014; Adler & Goggin, 2005). In the present study, civic engagement is conceptualized as "voluntary civic activity," online and offline (Gil de Zúñiga & Valenzuela, 2011, p. 399; Verba, Schlozman, & Brady, 1995). The voluntary civic activity means activities which are (1) neither "mandatory" and nor "financially compensated," (2) "aimed at addressing social and/or community issues that are not political by nature" via "nongovernmental or non-electoral means," (3) "conducive to the collective well-being" (Gil de Zúñiga & Valenzuela, 2011, p. 399).

Civic engagement involves multiple dimensions, such as community service, informal social activities, formal activities, collective action, political involvement and social change (Adler & Goggin, 2005; Putnam, 2000). Prior empirical investigation largely focused on civic engagement offline, such as "attending church, volunteering for nonpolitical groups, raising money for charities, participating in neighborhood meetings, supporting the social responsibility of a corporation by buying its product or services, working on behalf of a social group or cause" (Gil de Zúñiga & Valenzuela, 2011, p. 399). As Internet is increasingly used as a tool for initiating, communicating, organizing and coordinating collective action, civic engagement online has become another critical dependent variable of empirical studies (Hwang, et al., 2006; Hsieh & Li, 2014). In fact, various online communication tools supplement and alter traditional forms of civic engagement (Cheng et al., 2014). SNS, for instance, enable ordinary citizens to participate in civic life through searching for information, expressing personal opinions, sharing news, discussing public affairs, joining online civic communities, and donating money online (Cheng et al., 2014; Wu, 2014; Vitak, Zube, Smock, Carr, Ellison, & Lampe, 2011).

Civic Engagement and Internet Use

Over the past few decades, Internet has gained much popularity around the world. By 2016, the number of Internet users worldwide reached 3.5 billion (Statista, 2017f). More individuals around the world use the Internet on mobile devices (e.g., smartphone and tablet computers) than on desktop (StatCounter, 2016). For instance, the total number of mobile Internet users of China was almost 656 million by June 2016, whereas there were around 54 million Chinese users who only access the Internet from computers

(Custer, 2016). More importantly, mobile devices accounted for 51.3 percent of worldwide Internet usage in October 2016, as desktop constituted 48.7% of it (StatCounter, 2016). Fueled by an increase in the use of mobile devices, the average individual in the United Kingdom spends more than 20 hours on the Internet each week; further, young adults aged between 16 and 24 spend over 27 hours online a week (Anderson, 2015). As of June 2015, the top five popular mobile Internet activities on smartphone worldwide involve E-mail, using SNS, and reading news, articles, books and so forth, working, and instant messaging/video calling (Statista, 2017g). In addition, E-mail, working, reading news, books and so forth, using SNS, and watching movies/videos are the top five popular mobile Internet activities on tablet worldwide (Statista, 2017g).

In the meantime, the worldwide popularity of SNS has been growing: it was estimated that the number of SNS users will be around 2.72 billion worldwide in 2019 (Statista, 2017h). According to boyd and Ellison (2007), SNS are Internet-based communication tools "that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system'(p. 211). Typically, SNS consist of four parts: a user profile containing information like gender, hometown, and occupation, spaces that facilitate information exchange and content generation, searching functions that promote new connections between users, and a list of friends with whom users have connected with (Joinson, 2008; Ancu & Cozma, 2009). SNS use has influenced "work, politics and political deliberation, communication patterns around the globe, as well as the way people get and share

information about health, civic life, news consumption, communities, teenage life, parenting, dating and even people's level of stress" (Perrin, 2015, p. 2).

Empirical evidence have suggested a link between uses of ICTs and civic and political participation. For instance, some Internet users in the US participate in civic and political life by following political candidates on SNS, posting video or picture contents associated with a political or social issue, commenting on political or social issues on websites, and consuming political or social issue-related content by reading blogs (Smith, Schlozman, Verba & Brady, 2009). Certain features of Internet, such as "affordability, freely available information, anonymity, customizability, time- and distance-defying communication, interactivity, and decentralization," have facilitated civic and political engagement (Zhou, 2009, p. 1005). During the rally and march organized by United for Peace and Justice (UFPJ) against the war in Iraq, for instance, organizers used the website of UFPJ to coordinate and facilitate participation in this issue at Washington D.C. at a very low cost (Earl & Kimport, 2011). Specifically, they posted the logistical details of the event as well as the link through which visitors can donate for UFPJ with credit card (Earl & Kimport, 2011).

In authoritarian regimes, the affordances of Internet have also promoted civic and political engagement. Throughout the Egyptian revolution, the National Coalition for Change used Facebook to communicate messages such as "Tell your friends" and thus mobilized protesters (Khamis & Vaughn, 2011). Characterized by networks of peer-to-peer communication, Facebook enabled organizers to instantly spread and share information about the protests between friends (Idle & Nunns, 2011). Likewise, Twitter was employed by multiple types of users, such as activists, mainstream media outlets and

individual journalists, for producing and disseminating news about the Arab Spring both domestically and internationally (Lotan, Graeff, Ananny, Gaffney, Pearce, & boyd, 2011). In Mexico, uses of SNS and interactive websites have fostered citizen engagement through improving "issue awareness, citizens' capacities, and political power" (NDI, 2014, p. 37). For instance, the Security and Justice website served as a platform where citizens can discuss issues about security and justice with local authorities and issue experts (NDI, 2014). In Peru, a website named 131 Voices was developed to increase communication between legislators and citizens, therefore enhancing the level of transparency of democratic institutions and citizens' access to legislative information (NDI, 2014). In addition, Facebook has enabled several Chinese NGOs to establish online presence by updating their audience on news of the organizations and connecting with their stakeholders through posting news links, press releases, campaign summaries, photos and video files (Lo & Waters, 2012).

Media Exposure and Internet Use

The literature concerning the role of Internet in civic engagement is "divided" (de Vreese & Boomgaarden, 2006, p. 317). Following an instrumental perspective, one school of scholars has contended that uses of Internet as well as other web-based services facilitate civic engagement and thus enhance "civil society and democratic politics" (e.g., Jennings & Zeitner, 2003, p. 312). Firstly, the interconnectivity of Internet enable information to be disseminated more widely and quickly than ever before (Ayres, 1999; Esarey & Qiang, 2011; Lotan et al., 2011; Norris & Curtice, 2008). MacKinnon and Castells argued that "these interlinked networks of communication are globally connected, increase rapidly in size, have no fixed boundaries, and are capable of resisting

state efforts to dominate information flows by circumventing blockages through reconfiguration" (as cited in Esarey & Qiang, 2011, p, 300). As a result, information on social and political issues can be immediately spread across different regions and nations. Secondly, the network structures of Internet promote connections between users of different groups (Klinger & Svensson, 2014; boyd & Ellison, 2008). In particular, like-minded individuals who share common interests in public issues can be connected through the Internet, even though they might be geographically separated and in different time zones (Bennett & Sergerberg, 2012). Thirdly, Internet fosters personalized communication as well as interaction between users (Xu, 2014; Bennett, 2012). Individuals can engage in online discussion, express opinions and exchange ideas about social or political issues on multiple channels (Zhou, 2010; Klinger & Svensson, 2014; Esarey & Qiang, 2011). Fourthly, Internet reduces the cost of organizing and coordinating civic engagement (Earl & Kimport, 2011; Delli Carpini, 2000). Serving as a "mobilizing agent," Internet is used by activists for directly communicating with audience and providing them relevant information about participation in a timely manner (Bimber, 2000, 2001; Earl & Kimport, 2011). Lastly, Internet increases the diversity of information and viewpoints (Lei, 2011). Specifically, Internet reduces the power and the influence of the authorities over the information flow and thus offer many opportunities for ordinary citizens to speak and to be heard (Esaery & Qiang, 2011; Wu, 2014).

In contrast, another group of scholars has claimed that Internet use has no significant effect on civic and political engagement (e.g., Margolis & Resnick, 2000; Wilhelm, 2000). One empirical study has shown that the access to Internet is not significantly associated with voting and other forms of political engagement (Bimber,

2001). Also, this study demonstrated that the use of Internet for acquiring political information does not increase the likelihood of persuading others, displaying a sign, attending a meeting, or working for a campaign. A second empirical investigation conducted among 6330 Belgians youths indicated that the time spent with Internet does not significantly predict participation in public life, after gender, socioeconomic and ethnical background were controlled for (Quintelier & Vissers, 2008). In a third study, Scheufele and Nisbet (2002), analyzing data from a survey of 468 residents of Tompkins, New York, reported that web use for political information seeking is not a significant predictor of forum participation and traditional forms of participation in public affairs. Beyond these, some scholars argued that the effect of Internet use on participation in civic and political life appears to be qualified depending on a number of factors (Norris, 2001). For instance, Jennings and Zeitner (2003) contended that Internet "will mainly serve to perpetuate and reinforce existing inequalities in civic engagement," in part because of the "digital divide" (p. 312). Specifically, Internet is simply used as another tool for obtaining information, connecting with members of social networks and other purposes by individuals who have sufficient resources (e.g., time, money), skills (e.g., experience in navigating diverse communication technologies), motivation and interests (Min, 2010; Van Dijk, 2005).

The content of media use has been argued as an independent variable that influences participation in civic and political life (e.g., Shah, 1998). Empirical studies have shown that exposure to news on mass media (e.g., newspaper, television) do not only contribute to an increase in knowledge about social and political issues, but also affect civic engagement (McLeod, Scheufele & Moy, 1999; Shah, McLeod & Yoon,

2001). Using the 1995 DDB Needham life style study, Shah (1998) found that newspaper reading is positively associated with civic engagement, while science fiction is negatively associated with civic engagement. Similarly, Sotirovic and McLeod (2001) found that reading public affairs content in newspapers contributes to an increase in political participation, both directly and indirectly. Utilizing panel surveys and news media content analyses, de Vreese and Boomgaarden (2006) argued that exposure to public television news and broadcast newspapers, which are news outlets with high levels of political content, increases both political knowledge and the likelihood to vote. This study also showed that exposure to news outlets with less political content has less effect on the political knowledge gain and the intention to vote.

The effect of exposure to television and newspapers news on civic and political engagement can be extended to exposure to news contents on Internet. Drawing on survey data from American National Election Studies, Tolbert and McNeal (2003) found that the use of Internet for political news increases the probability of voting. Likewise, Kenski and Stroud (2006), who analyzed data from the 2000 National Annenberg Election Survey, found that exposure to campaign information online is a positive predictor of political participation. Based on results of the 2004 American National Election Studies pre-election and postelection surveys, Xenos and Moy (2007) claimed that exposure to campaign information online is significantly associated with increased civic engagement. Moreover, this study demonstrate that the effect of exposure to campaign information online on electoral and civic engagement is enhanced for individuals with high levels of political interests. In an empirical study conducted among college students in China, Zhang and Lin (2014) found that news media use, including

watching news on television, watching news videos online, reading newspapers and reading text news online, is a positive predictor of the canonical mode of political participation (e.g., follow news on government or politics regularly). In another study conducted among college students in the U. S., Vitak et al. (2011) argued that exposure to friends' participation in political life on Facebook is "positively related to both Facebook and general political participation" (p. 113).

Given that most research have suggested that exposure to news and information about public affairs or political issues contributes to an increase in participation in civic and political life, it was proposed that:

H1: Civic engagement on SNS is positively associated with attention to content about China smog on mobile Internet.

H2: Civic engagement in real life is positively associated with attention to content about China smog on mobile Internet.

Based on previous research concerning the association between general Internet use and civic and political engagement, it was suggested that:

RQ1: Is civic engagement on SNS associated with (a) intensity of SNS use and (b) frequency of SNS use?

RQ2: Is civic engagement in real life positively associated with (a) intensity of SNS use and (b) frequency of SNS use?

Motives for SNS Use

The UGT is mainly based on the assumption that users actively choose media to satisfy their individual needs (Blumer & Katz, 1974). In addition, the effect of media on users' thoughts, emotions, or behavior depend on users' involvement with a particular

medium, motives for media use, social and psychological factors, and users' initiative (Palmgreen, 1984; Rubin, 1986; Rubin & Windahl, 1986; Rubin & Perse, 1987). Firstly, users actively participate in communication processes, but their level of activity is not equal (Rubin, 1994). Levy and Windahl (1984), for instance, found that users were active when they search programs for the motive of surveillance. However, they were not active in searching programs for the motive of entertainment-parasocial interaction. Secondly, individuals use the media for various reasons (Rubin, 1994). Finn (1992) classified motives for media use as proactive or passive. In a similar vein, Rubin (1984) described the motives of media use as either ritualized or instrumental. Thirdly, social and psychological factors such as personality characteristics, social conditions and psychological inclinations mediate users' communication behavior (Rubin, 1994). For example, Perse and Rubin (1990) posited that levels of loneliness is significantly associated with media use. Lastly, individuals' selection of media, attention to media messages and media usage can influentially mitigate media effects (Rubin, 1994). Rubin (1994) noted that users will not be influenced or affected by media messages until they pay attention to them.

Adopting the UGT, a number of researchers have examined motives for media use, namely how and why individuals use a particular medium (e.g., McQuail, Blumler, & Brown, 1972; Papacharissi & Rubin, 2000; Perse & Dunn, 1998). Leung and Wei (2000) conducted a telephone survey in Hong Kong, and they identified seven motives behind the use of cellular phone: fashion/status, affection/sociability, relaxation, mobility, immediate access, instrumentality and reassurance. Drawing on a secondary analysis of the 1999 DDB Life Style Study, Shah, Kwak and Holbert (2001) claimed four

components of Internet use, including social recreation, product consumption, financial management, and information exchange. Campbell and Kwak (2010), assessing mobile phone usage patterns among individuals in the US, found three motives for mobile phone use: personal recreation, sociability and information exchange. Joinson (2008) argued that Facebook is primarily used for social connection, shared identities, photos, content, social investigation, social network surfing and status updating. Cheng et al. (2014), administering a survey among college students in China, found technological convenience, information exchange, social interaction, recreation are motives for SNS use on mobile devices.

Empirical research have suggested connections between motives for media use and participation in civic and political life (e.g., Shah et al., 2001; Kim, 2007; Campbell & Kwak, 2010; Chan, Wu, Hao, Xi & Jin 2012). For instance, most empirical studies have indicated that media use for informational purposes contributes to an increase in civic and political engagement (e.g., Cheng et al., 2014). Shah et al. (2001) found that Internet use for information exchange is positively associated with civic engagement. Similarly, Campbell and Kwak (2010) argued that mobile phone use for information exchange is a positive predictor of both civic and political engagement. Cheng et al. (2014) also asserted that SNS use on mobile devices for information exchange fosters participation in public issues, both online and offline. Park, Kee and Valenzuela (2009) claimed that participation in Facebook Groups for information seeking has a positive effect on both civic and political engagement. Gil de Zúñiga (2012) noted that SNS use for news both directly and indirectly promotes civic participation. In addition, Chan et al.

(2012) found that microblog use for gratifying information needs is positively associated with expression about government and politics on Internet.

In the meanwhile, a few studies have demonstrated that media use for gratifying social interaction has an effect on civic and political engagement (e.g., Cheng et al., 2014). Anzu and Cozma (2009), for instance, noted that MySpace use for interacting with like-minded campaign supporters is a powerful predictor of campaign involvement. Hsieh and Li (2014) contended that online media use for social interaction contributes to growth of contacting political figures directly and expressing political thoughts on Internet, even though psychological and behavioral antecedents of political participation were controlled for. Further, Cheng et al. (2014) found support for their proposition that SNS use on mobile devices for recognition needs both significantly and positively predicts civic engagement, both online and offline. Nevertheless, Campbell and Kwak (2010) claimed that mobile phone use for sociability does not significantly predict civic engagement, nor political engagement. Likewise, Zhang and Lin (2014) maintained that SNS use for social networking does not have an effect on canonical, contact-lobbying and CCP-initiated political participation in China.

In addition, empirical research on the effect of media use for entertainment on civic and political engagement revealed contradictory findings. Ancu and Cozma (2009) noted that MySpace use for entertainment is not significantly associated with campaign involvement. Chan et al. (2012) argued that microblog use for entertainment needs is not related with online expression about government and political affairs. In addition, Cheng et al. (2014) asserted that SNS use for entertainment is not a significant predictor of civic engagement. In a similar vein, Park et al. (2009) contended that Facebook Groups use for

entertainment does not significantly predict civic engagement or political participation. Nevertheless, Campbell and Kwak (2010) found that mobile phone use for personal recreation is positively associated with political participation. On the contrary, Shah et al. (2001) found that Internet use for social recreation is negatively related with participation in civic activities.

Drawing on the positive relationship between media use for informational purposes and civic engagement as well as the inconsistent effect of media use for social interaction and entertainment on civic engagement, it was suggested that:

H3: Civic engagement on SNS is positively associated with SNS use for cognition needs.

RQ3: Is civic engagement on SNS associated with SNS use for (a) affection needs, (b) recognition needs, or (c) entertainment?

H4: Civic engagement in real life is positively associated with SNS use for cognition needs.

RQ4: Is civic engagement in real life associated with SNS use for (a) affection needs, (b) recognition needs, or (c) entertainment?

Social and Political Factors

In order to understand the implications of Internet and SNS use for contemporary civic engagement in China, it is important to address social and political factors, including Internet censorship, trust in government, political efficacy, social trust and social capital. Historically, the Chinese government has been exerting a strong and tight control over the media use of Chinese nationals and thus plays a crucial role in shaping the online space of China (Esarey & Qiang, 2011). Collective action in reality such as

strikes and sit-ins rarely occurs, because it is likely to bring about "political repercussions" and has been repressed by the Chinese government (Cheng et al., 2014, p.2).

Social trust. Trust is defined as "a sentiment linking us to others and to cooperate with them on issues of common concerns" (Putnam, 1993, pp. 170-171). It refers to "the actor's belief that, at worst, others will not knowingly or willingly do him harm, and at best, that they will act in his interests" (Newton, 2001, p. 202). As a principal element of social capital, trust is critical to the maintenance of "peaceful and stable social relations" (Newton, 2001, p. 202). In addition, it serves as the basis for sustaining "a cooperative social climate," facilitating "collective behavior," and encouraging "a regard for the public interest" (Zmerli & Newton, 2008, p. 706). Social (or interpersonal) trust can be seen as "an attitude toward other people who are not kin or intimates" as well as "the perception that other people are, in general, fair, trustworthy, and helpful" (Cappella, 2006, p. 23).

Social trust has been linked to civic engagement (e.g., Pew Research Center, 1997). Shah (1998) and Scheufele and Shah (2000) argued that social trust is positively associated with civic engagement. Crystal and Debell (2002) found that social trust contributes to an increase in effective community service, endorsement of private citizenship service, the number of times students ran for student government office and participation in student office among American 6^{th}, 8^{th} and 10^{th} graders. Social trust is also a strong predictor of membership in voluntary associations, volunteering and charitable giving (Uslaner, 1998; Uslaner & Brown, 2005). Apart from the main effect of social trust on civic engagement, previous research have revealed that civic engagement

enhances social trust (e.g., Delli Carpini, 1996). Stolle (1998) maintained that joining an association improves social trust; however, the effect abates for individuals who have been associated with the association for a long time. Shah (1998) and Brehm and Rahn (1997) asserted that civic engagement has a stronger effect on social trust than the effect of social trust on civic engagement. Grönlund, Setälä and Herne (2010) argued that participation in deliberative mini-public results in an increase in social trust. Warren, Sulaiman, and Jaafar (2014) found that online coordination of civic activities directly influences citizens' tendency to trust others. These findings suggest that civic engagement like participation in community activities enable citizens to "gain positive experiences with others, fostering global assessments of increased faith" (Shah, 1998, p. 490).

Social capital. Social capital is defined as "an interlocking and mutually reinforcing set of values, norms of behavior, civic engagement, and cooperative behavior that constitutes a virtuous circle" (Putnam, 1993, p. 180; as cited in Uslaner & Conley, 2003). It also refers to "the sum of the resource, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (Bourdieu & Wacquant, 1992, p. 14; as cited in Ellison, Steinfield, & Lampe, 2007). Putnam noted that social capital enable citizens to "work together more effectively in attempts to resolve collective action problems" (Shah, 1998, p. 471). Decline in social capital leads to a series of negative social outcomes, such as increased social disorder, distrust in others and reduced civic engagement (Ellison et al, 2007). A great amount of social

capital benefits a society by enhancing participation in community issues and the capability of mobilizing collective action (Ellison et al., 2007).

Research activity in the area of social capital have examined its connections with a number of issues of common concern, such as the development of economy, effectiveness of political institutions, efficiency of financial markets, public health, crime rates and occurrences of social problems (Adler & Kwon, 2002; Fukuyama, 1995; Hagan, Merkens & Boehnke, 1995; Ellison et al., 2007). Social capital has also been linked to civic and political participation (e.g., Shah, 1998; Klesner, 2007; Valenzuela, Park & Kee, 2009). Zhang and Chia (2006), for instance, found that social connectedness, an indicator of social capital, is a predictor of both political and civic engagement. Gil de Zúñiga et al. (2012) argued that social capital both indirectly and directly influences offline civic participation, whereas it only has an indirect effect on online civic participation.

Drawing on the association between civic engagement and (a) social trust and (b) social capital, it is suggested that:

H5: Civic engagement on SNS is positively associated with (a) social trust and (b) social capital.

H6: Civic engagement in real life is positively associated with (a) social trust and (b) social capital.

Internet censorship. Expansion of Internet use in China gives rises to a debate on whether online communication tools will result in democratization of the authoritarian regime with the largest population in the world (e.g., Rosen, 2010; Wu, 2014). While proliferation of SNS provides Chinse netizens seemingly ample space for public

deliberation and civic expression, uses of the online communication tools are constrained by "the sociopolitical context of China" (Liang & Lu, 2010, p. 104). Compared to other countries, the Internet development of China has been intervened and dominated by the Chinese government (Liang & Lu, 2010). Quite a few researchers who are pessimistic about the potential of Internet use in democratization of China argued that the Internet is a new tool for the Chinese government to achieve "networked authoritarianism" by "channeling user behaviors in specific directions," "directing public opinion," "promoting e-government," "disseminating official views and ideologies" and other means (Sullivan, 2014; Esarey & Qiang, 2011; MacKinnon, 2011). Moreover, public use of Internet is tightly controlled through "the Great Firewall, self-censorship, and multidimensional regulations" which have become "an integral part of national strategy" for the Chinese government to stabilize the country (Yuan, 2010; Liang & Lu, 2010, p. 105). Prior research suggested that online contents which directly threaten "the legitimacy of the party-state" and potentially trigger "collective action" are very likely to be eliminated or hidden by Internet police or computerized filters (King, Pan, & Roberts, 2012; Yang, 2012; Esarey & Qiang, 2011). Meanwhile, access to websites deemed to jeopardize "the social order of the country or to national security" is blocked (Yuan, 2010). Business enterprises and individuals are pressured to comply with comprehensive laws and regulations when using the Internet for commercial or social purposes (Liang & Liu, 2010). Violation of the laws and regulations can lead to "fines, temporary shut downs, or revocation of business license" of companies and detention of individuals (Yuan, 2010; Clothey, Koku, Erkin, & Emat, 2015).

In response to the Chinese government, Internet users in China have adopted both non-technological and technological methods to fight against the Internet censorship (Wallis, 2011). Parody, political satire, coded languages, homonyms, neologisms and other non-technological techniques are appropriated by Chinese netizens to creatively convey "criticism and dissatisfaction" towards the authority (Wallis, 2011). To obtain information eliminated or hidden by the Great Firewall as well as evade the repression from the Chinese government, Chinese netizens use technological means involving virtual private network (VPN), anti-blocking software, remailer services and multimedia tools (Deluca, Brunner, & Sun, 2016; Esarey & Qiang, 2011). These various resisting practices indicate that the Chinese netizens have resourcefully adapted their online behaviors to the multi-layered Internet censorship while accomplishing personal purposes of Internet use (Esarey & Qiang, 2011; Mou, Atkin, & Fu, 2011).

Given the defying behaviors aimed at the Internet censorship, it is conceivable that the intervention of the Chinese government on the Internet use is likely to have an inhibiting effect on civic engagement among Chinese netizens, particularly when it is used for expressing personal opinions, searching for information, and spreading news. While there has been massive coverage of the China smog by the state media, for instance, certain contents about this issue on SNS were censored (Allen, 2015). Specifically, some posts demanding the government to do more to tackle the problem were invisible to the public ("The messages getting lost," 2016). Furthermore, the government has suppressed several protests organized and coordinated by the messaging app WeChat ("The messages getting lost," 2016). Thus, it is likely that fear of the Internet censorship will inevitably lessen expression of personal opinions on the China

smog issue on Internet. Besides, those who resist Internet censorship through various ways to avoid potential risks might have a relatively high propensity for engaging in civic life on Internet.

Trust in government. Trust in government is defined as the "judgement of the citizenry that the system and the political incumbents are responsive, and will do what is right even in the absence of constant scrutiny" (Miller & Listhaug, 1990, p. 358). Levi and Stoker (2000) and Goldfinch, Gauld and Herbison (2009) noted that trust in government encompasses multiple levels of trust. For instance, it can range from "trust in particular institutions or organizations, trust in particular political regimes" to "trust in actual personnel within government" (Goldfinch et al., p. 337). Trust in government, also termed as confidence in government, reflects "institutional trustworthiness" which is "underpinned by systems of accountability and sanctions" (Abbott & Freeth, 2008, p. 876). In addition, trust in government manifests citizens' evaluation of the performance of a particular political system and influences their political attitudes (Newton, 2001). Low trust in government (or high distrust of government) reveals both citizens' negative attitudes toward government as well as poor functioning of a particular political system (Moy & Scheufele, 2000; Newton, 2001). Trust in government serves as the foundation of "democratic and stable political life" (Newton, 2001, p. 205). More importantly, it influences citizens' political activeness, support of policy or institutional reforms, and compliance with political authorities and interpersonal trust (Levi & Stoker, 2000, p. 501).

The literature on the association between trust in government and participation in civic and political life is mainly dominated by three different assertions. One assertion is

that low level of trust in government is associated with high level of participation in public issues (e.g., Manion, 2006). Goldfinch et al. (2009), for instance, found that participation in political life, measured by contacting members of parliament and searching for government information, is associated with less trust in government; further, more frequent use of e-government is associated with fewer possibilities of trusting government. Likewise, Mou et al. (2011) found that trust in social system, including the trust in exercise of law in China, the judicial system of China and the surveillance function of Chinese media, is inversely related with online political discussion. In the context of the "mad cow disease" issue of Britain, Tarrow (1999) suggested an association between activism and loss of confidence in government.

Another assertion regarding trust in government and participation in public issues is that high level of trust is associated with increased civic and political engagement (e.g., Carter & Bélanger, 2005). Tolbert and Mossberger (2006), for example, claimed a positive association between trust in government and the use of e-government; in particular, the use of e-government enhances process-based trust by "improving interactions with citizens and perceptions of responsiveness" (p. 354). Gil de Zúñiga and Valenzuela (2011) argued that trust in political institutions contributes to an increase in civic participation, when controlling for age, gender, education, income and race.

The third assertion regarding the relationship between trust in government and participation in civic and political life is that the two variables are not significantly associated with each other (e.g., Newton, 1999). Espinal, Hartlyn and Kelly (2006), for instance, found that in the Dominican Republic, civic engagement does not significantly

influence trust in government, disconfirming the views that civic engagement is either positively or negatively associated with trust in government.

Political efficacy. Political efficacy is defined as "the feeling that political and social change is possible, and that the individual citizen can play a part in bringing about this change" (Campbell, Gurin, & Miller, 1954, p. 187). It can be categorized into two dimensions: internal and external political efficacy (Niemi, Craig, & Mattei, 1991). Internal political efficacy involves "beliefs about one's own competence to understand, and to participate effectively, in politics," whereas external political efficacy refers "to beliefs about the responsiveness of government authorities and institutions to citizen demands" (Niemi, Craig, & Mattei, 1991, pp. 1407-1408).

Empirical evidence have suggested that political efficacy is significantly associated with participation in civic and political life. Pattie, Seyd, and Whiteley (2003) claimed that political efficacy results in an increase in two types of civic activism: individualistic and contact activism. Kenski and Stroud (2006) found that political talk with family and/or friends is a predictor of both internal and external political efficacy, when controlling for demographics, political identification and attitudes. Gil de Zúñiga (2012) asserted that political efficacy contributes to growth of civic participation as well as growth of online and offline political participation. Ikeda, Kobayashi, and Hoshimoto (2008) maintained that political participation enhances political efficacy; further, the effect of political participation on political efficacy is stronger when level of distinctiveness of political party system is higher. Pasek, Feldman, Romer, and Jamieson (2008) found that internal political efficacy indirectly increases tendency to vote through

political attentiveness. Mou et al. (2011) claimed that both internal and external political efficacy are associated with increased online political discussion.

In light of the unclear implications of Internet censorship, political efficacy and trust in government on civic engagement, this study examines the following:

RQ5: How is civic engagement on SNS associated with (a) behavioral resistance of Internet censorship, (b) internal political efficacy, (c) external political efficacy and (d) trust in government?

RQ6: How is civic engagement in real life associated with (a) behavioral resistance of Internet censorship, (b) internal political efficacy, (c) external political efficacy and (d) trust in government?

Demographics

Finally, age, gender, household income and education are likely to contribute to participation in the China smog. Empirical studies have suggested that these variables affect participation in civic and political life (Shah, 1998; Gil de Zúñiga & Valenzuela, 2011; Verba, Burns & Schlozman, 1997). Burns, Schlozman and Verba (2001) found significant differences in participation in civic and political life between men and women. For example, men are more likely to affiliate with a political organization, while women are more likely to affiliate with organizations concerning senior citizens, youth affairs, and education (Burns et al., 2001, pp. 65-102). In the meantime, age, education and income levels are positively associated with civic engagement (Shah, 1998). For instance, education allows citizens to acquire skills for participating in civic life (e.g., "letter writing and organizing events"), thus more educated people are more likely to involve in civic life than less educated ones (Shah, 1998, p. 478). In addition, greater disposable

income can bring more resources for mobilization, thus affluent individuals have a high propensity for civic engagement (Shah, 1998).

Another factor that may account for participation in the China smog is the geographical location of citizens. Average concentrations of PM2.5 varies by geographical locations of China (Greenpeace, 2016). Cities with higher average concentrations of PM2.5 tend to experience heavier pollution than those with lower average concentrations of PM2.5 (Greenpeace, 2016). Thus, it is speculated that the location where citizens work, study or reside influences their involvement in the China smog. For instance, individuals who are currently working, studying or residing in Beijing are more likely to seek information about this issue through Internet than those who are currently working, studying or residing in Sanya, because the average concentrations of PM2.5 of Beijing is much higher than that of Sanya (Greenpeace, 2016).

CHAPTER 3

METHOD

The questionnaire was used to answer the research questions and examine the research hypotheses. It is a basic tool of survey research of media and communication, such as media-effect associations and media audiences (Hansen, Cottle, Negrine & Newbold, 1998; Jensen, 2002). The questionnaire was an appropriate method for the current study for three reasons. Firstly, the data collected from questionnaires can "lend support to, or to negate, hypotheses or propositions" (Hansen et al., 1998, p. 225). Secondly, the questionnaire provided a way for "finding out about individual opinions, attitudes, behavior and so on towards a whole range of topics and issues" like the China smog (Hansen et al., p. 225). Thirdly, the questionnaire enabled the researcher to "explore relationships or degrees of association between variables" (Jensen, 2002, p. 214).

Sample

Using snowball sampling**,** participants were recruited through specific faculty and staff members of universities and vocational colleges of China and employees of multiple companies located in China. Snowball sampling was best suited for the present study due to the difficulty in finding the population under investigation, the sensitivity of the research topics and time constraints (Trochim, Donnelly & Arora, 2016; Penrod, Preston, Cain & Starks, 2003). This method depends on the use of "interpersonal relations and connections between people" to locate potential participants (Browne, 2005, p. 47). In particular, the principal investigator began by identifying 12 to 15 Chinese nationals who were SNS users aged 18 and over to participate in this study; then the Chinese nationals

were requested to share the information about this study with other Chinese nationals with whom they had connections to find respondents who met the criteria of inclusion in this study (Trochim et al., 2016; Browne, 2005).

All the faculty and staff members of universities and vocational colleges and the employees of companies contacted by the researcher received the following items through email or SNS: (1) a quick response (QR) code of the questionnaire hosted on www.qualtrics.com, (2) an anonymous link to the online questionnaire, and (3) a recruitment script of this study. The online questionnaire included a consent letter describing what the study was about, consequences of and criteria for participation in this study, the voluntary and the confidential nature of participation, who to contact regarding rights as research participants if questions arose, who to email regarding questions about this study, and what the data collected from the questionnaire would be used for. In total, 718 responses were recorded by www.qualtrics.com. Of the questionnaires, 147 were completed through the QR code and 571 were completed through the anonymous link. The dataset was cleaned, and cases with missing data at 10% and over were removed (Hair, Black, Babin & Anderson, 2010).

In the final sample, participants (N = 668) included 368 females (55.1%) and 287 males (43%). The mean age was 28.51 (SD = 10.03, ranging from 1 to 60). For monthly household income, 14.5% of participants reported under ¥3000, 25.7% reported between ¥3001 and ¥6000, 19.9% reported between ¥6001 and ¥9000, 14.7% reported between ¥9001 and ¥12000, 7.0% reported between ¥12001 and ¥15000, 4.8% reported between ¥15001 and ¥18000, and 13.0% reported over ¥18000. For the highest level of education attained, .3% of participants reported primary school and below, 2.5% reported junior

high school, 8.7% reported having a senior or vocational high school diploma, 20.1% reported having an associate's degree, 53.0% reported having a bachelor's degree, 13.8% reported having a master's degree, and 1.0% reported having a doctoral degree. For the current location, 14.1% of participants reported that they were working or residing in one of the cities or provinces: Beijing, Henan, Hebei, Tianjin or Shandong, 7.6% reported Hubei, Jiangsu, Shanxi, Anhui or Chongqing, 6.1% reported Liaoning, Jilin, Shanghai, Xinjiang or Hunan, 58.4% reported Shannxi, Sichuan, Zhejiang, Ningxia or Jiangxi, 2.2% reported Qinghai, Gansu, Inner Mongolia, Heilongjiang, or Guangxi, 10.9% reported Guangdong, Guizhou, Fujian, Yunnan, or Tibet, and .3% reported Hainan.

Pilot Study

To develop and test the adequacy of research instruments, the researcher piloted the questionnaire among the target population (Teijlingen & Hundley, 2001). The pilot involved 63 Chinese nationals who were SNS users aged 18 and over. The participants were selected based on convenience sampling techniques. Specifically, the researcher capitalized on personal contacts to locate the participants (Trochim et al., 2016). Two doctoral students studying at a public university in the US and one employee working at a technology company in China offered feedback on the questionnaire. The feedback mainly focused on changes to the content and the wording of several items. Based on the feedback, the researcher altered the original questionnaire to improve the adequacy of the research instruments.

Measures

Demographics Gender was measured on a nominal scale (1 = Male, 2 = Female). Age was measured by asking participants to answer "what is your age on your last

birthday" (Gil de Zúñiga, 2012, p. 324). Education was operationalized by asking participants to choose one of 7 categories of the highest level of education attained: 1 = Primary school or below, 2 = Junior high school, 3 = Senior/vocational high school, 4 = Junior college, 5 = Bachelor's degree, 6 = Master's degree, 7 = Doctoral degree. For income, participants chose one of 7 categories of total monthly household income in RMB (renminbi, the official currency of China): 1 = Less than 3000 RMB, 2 = 3001 RMB to 6000 RMB, 3 = 6001 RMB to 9000 RMB, 4 = 9001 RMB to 12000 RMB, 5 = 12001 RMB to 15000 RMB, 6 = 15001 RMB to 18000 RMB, 7 = over 18001 RMB (Zhang & Lin, 2014).

Location was operationalized by cities or provinces of China that have been designated by Greenpeace according to their level of average concentrations of PM2.5. In particular, participants were asked to choose one from 7 categories of provinces (or cities) of China where they are currently studying, working or residing: 1 = Beijing, Henan, Hebei, Tianjin and Shandong, 2 = Hubei, Jiangsu, Shanxi, Anhui and Chongqing, 3 = Liaoning, Jilin, Shanghai, Xinjiang and Hunan, 4 = Shannxi, Zhejiang, Sichuan, Ningxia and Jiangxi, 5 = Qinghai, Gansu, Inner Mongolia, Heilongjiang and Guangxi, 6 = Guangdong, Guizhou, Fujian, Yunnan and Tibet, 7 = Hainan (Greenpeace, 2016).

General SNS use was measured through two dimensions: (1) average time spent on SNS per day in the past week, and (2) SNS use intensity (Junco, 2012; Ellison et al., 2007). In the present study, the scale measuring Facebook use intensity developed by Ellison et al. (2007) was adapted for measuring general SNS use. Firstly, participants were asked to answer "In the past week, approximately how much time per day have you spent actively using SNS" with a slider (Min = 0 minutes, Max = 240 minutes).

Secondly, participants were asked to rate their SNS use intensity on six items, including "SNS is part of my everyday activity," "I am proud to tell people I am on SNS," "SNS has become part of my daily routine," "I feel out of touch when I have not logged onto SNS for a while," "I feel I am part of the SNS community," and "I would be sorry if SNS shut down" (*Mean* = 5.60, *SD* = 1.12, Cronbach's alpha = .88).

Political efficacy. The scale measuring internal and external political efficacy developed by Craig, Niemi and Silver (1990) were modified to measure political efficacy of participants of the current study (Mou et al., 2011). Internal political efficacy was measured by three items, including "I consider myself well-qualified to participate in public issues," "I feel that I have a pretty good understanding of the important public issues facing our country," and "I believe that I am able to contribute to the solution for public issues facing our country" (*Mean* = 4.95, *SD* = 1.192, Cronbach's alpha = .81). External political efficacy was measured by two items, involving "Most public officials are truly interested in what the people think" and "Most public officials truly care about how they can serve the people well" ($r = .88$, $p < .001$). Participants were asked to indicate their level of agreement with these statements on 7-point Liker scales (1 = Strongly Disagree, 7 = Strongly Agree).

Trust in government was operationalized as the confidence that individuals have towards certain government institutions (Warren et al., 2007). The scale measuring trust in institutions developed by Warren et al. (2007) were adapted to measure this construct. Participants were asked to indicate their level of agreement with three statements on 7-point Likert scales (1= Strongly Disagree, 7 = Strongly Agree): "I believe that the law enforcement of our country is effective," "I believe that the judicial system of our country

is fair," and "I believe that our government is open and transparent" (*Mean* = 4.07, *SD* = 1.47, Cronbach's alpha = .85).

Social trust was operationalized as the "generalized faith in the honesty and integrity of others" (Shah, 1998, p. 477). In the current study, Yamagishi and Yamagishi's (1994) scale measuring individuals' beliefs about honesty and trustworthiness of others and Johnson-George and Swap's (1982) scale measuring one individual's trust in another in meaningful interpersonal relationships were altered to measure social trust. Participants were asked to indicate their level of agreement with four items on 7-point Likert scales (1 = Strongly Disagree, 7 = Strongly Agree). The items included "Most people are basically honest," "Most people are trustworthy," "Most people are reliable," and "Most people can keep their promises and commitments" (*Mean* = 4.98, *SD* = 1.25, Cronbach's alpha = .94)

Social capital was measured by an additive scale of six items utilized by Molyneux, Vasudevan, and Gil de Zuniga (2015). These items included "People in my community feel like family to me," "I think people in my community share values," "In my community, we talk to each other about community problems," "I think people in my community feel connected to each other," "In my community, people help each other when there is a problem," and "People in my community watch out for each other". Participants were asked to indicate their level of agreement ranging from 1 (Strongly Disagree) to 7 (Strongly Agree) with the each of these items (*Mean* = 4.53, *SD* = 1.13, Cronbach's alpha = .89).

Media exposure was operationalized as the frequency of viewing content about the China smog on mobile Internet. This variable was measured by an addictive scale of

eight items adapted from the scale measuring attention to public affairs on TV developed by Zhang and Chia (2006). Participants were asked to answer "In the past year, approximately how much attention have you paid to the China smog-related content on mobile Internet" on 7-point Likert scales (1 = Never, 7 = I paid attention to this particular content every time when I used mobile Internet). The contents included (1) AQI, (2) smog alerts, (3) causes of the smog, (4) areas affected by the smog, (5) duration of the smog, (6) harmful effects of the smog on health, (7) policies and actions the government have carried out for solving the smog issue, (8) preventive measures for the smog (*Mean* = 3.81, *SD* = 1.60, Cronbach's alpha = .94).

Behavioral resistance of Internet censorship was measured by asking participants to answer "In the past year, how frequently have you engaged in the following Internet using behaviors due to the restriction of Internet censorship" on 7-point Likert scales ranging from 1 (Never) to 7 (I engaged in this particular behavior every time when I used Internet): 1 = Log on foreign websites such as Google and Facebook through getting around the firewall of China, 2 = Express my truthful viewpoints, perspectives or attitudes through pinyin, 3 = Express my truthful viewpoints, perspectives or attitudes through coded language, 4 = Express my truthful viewpoints, perspectives or attitudes through image, 5 = Express my truthful viewpoints, perspectives or attitudes through homophone (*Mean* = 3.00, *SD* = 1.51, Cronbach's alpha = .88).

Motives for SNS use were measured by 7-point Likert scales (1 = Strongly Disagree, 7 = Strongly Agree) adapted from Cheng et al.'s (2014) scales that have been used for assessing the motives for SNS use among Chinese nationals. SNS use for cognition needs was measured by asking participants to indicate their level of agreement

with four items: “to broaden knowledge base”, “to understand events happening”, “to find out what is going on in society”, “to refine my thinking” (*Mean* = 5.56, *SD* = 1.04, Cronbach’s alpha = .91). SNS use for social interaction was measured through two dimensions: SNS use for affection and recognition needs. Affection needs included four items: “to let others know I care for them”, “to get the feeling that people care about me”, “to share common topics with friends”, “to share position, opinion, and personal values” (*Mean* = 5.09, *SD* = 1.12, Cronbach’s alpha = .86). Recognition needs included three items: “to establish personal identity, “to gain respect and support”, “to enhance sense of belonging by creating or joining group” (*Mean* = 4.32, *SD* = 1.38, Cronbach’s alpha = .86). SNS use for entertainment needs was measured by asking participants to indicate their level of agreement with three statements: “to kill time,” “to escape from study or work pressure,” “to have fun” (*Mean* = 5.15, *SD* = 1.24, Cronbach’s alpha = .84).

Civic engagement was measured through two dimensions: participation in the China smog on SNS and in real life. The scales measuring civic engagement developed by Cheng et al. (2014) and Gil de Zuniga (2012) were modified to measure this construct. Civic engagement on SNS was measured by asking participants to answer “In the past year, how frequently have you engaged in each of the following activities through SNS”; the activities included (1) seek information about the smog, (2) retweet information about the smog, (3) record the smog by posting information (e.g., photos, texts), (4) express opinions on the smog, (5) “Like” a particular post about the smog, (6) comment on posts about the smog, and (7) contact government institutions for resolving this issue (*Mean* = 2.67, *SD* = 1.51, Cronbach’s alpha = .93). Civic engagement in real life was measured by asking participants to answer “In the past year, how frequently have you engaged in each

of the following activities in real life"; the activities included (1) use a particular product or service because of its positive effect on solving the smog issue, (2) avoid a particular product or service because of it can worsen the smog issue, (3) help organize or coordinate charity events about the smog, and (4) participate in charity events about the smog (*Mean* = 2.18, *SD* = 1.44, Cronbach's alpha = .85).

CHAPTER 4

RESULTS

Past research has shown that certain demographic variables are sometimes correlated with civic engagement (Shah, 1998; Gil de Zuniga & Valenzuela, 2011; Verba, Burns & Schlozman, 1997; Burns, Schlozman & Verba, 2001). These variables include age, gender, education level, and income. In addition, it has been speculated that the average concentrations of PM2.5 of a specific location is likely to be related with the degree of involvement in the China smog (Greenpeace, 2016). To determine whether any of these variables needed to be controlled in the analyses, the correlations among these demographic variables and the two forms of civic engagement were calculated. As shown in Table 1, the location was positively and significantly correlated with civic engagement in real life as well as civic engagement on SNS. No other demographic variables were significantly associated with either form of civic engagement.

Before running the primary analyses, a series of preliminary multiple regression analyses were run to determine if location was significantly associated with civic engagement or if it interacted with any of the predictor variables to predict civic engagement. In these models, location was entered in step one, the independent variables were entered in step two, and the interactions between those independent variables and location were entered in step three. To examine the hypotheses and the research questions, these multiple regression analyses were re-run, such that location was only entered in step one if it was a significant predictor in the preliminary analysis. Support for hypotheses and answers to research questions were determined by whether independent

variables emerged as significant predictors in the primary regression analyses. However, bivariate correlations were also conducted to better interpret results.

General SNS Use and Media Exposure

The first two hypotheses and research questions addressed how three measures of general SNS use and media exposure were related to civic engagement in real life (H1 and R1) and civic engagement on SNS (H2 and R2). Bivariate correlations between these variables are presented in Table 2.

For H1 and R1, the overall regression model predicting civic engagement in real life from measures of general SNS use and media exposure was significant, $F(5, 591) = 31.77$, $p < .001$, $R = .46$, adjusted $R^2 = .21$. Attention to the China smog-related content emerged as significantly and positively associated with civic engagement in real life. Thus, H1 was fully supported. In response to R1, neither intensity nor frequency of SNS use was significantly associated with civic engagement in real life (See Table 3). In addition, there was a significant interaction effect between the intensity of SNS use and location (See Figure 1). There was not much effect for the intensity of SNS use for locations with low average concentrations of PM2.5. But in locations with high average concentrations of PM2.5, the high intensity of SNS use was negatively related with civic engagement in real life.

With regard to H2 and R2, the overall regression model predicting civic engagement on SNS from measures of general SNS use and media exposure was significant, $F(3, 594) = 127.89$, $p < .001$, $R = .63$, adjusted $R^2 = .39$. Attention to the China smog-related content was positively related with civic engagement on SNS. Thus,

H2 was fully supported. Regarding R2, neither intensity nor frequency of SNS use was a significant predictor of civic engagement on SNS (See Table 4).

The next two sets of hypotheses and research questions examined how civic engagement is associated with four specific motives of SNS use. Bivariate correlations among these four motives and the two types of civic engagement can be found in Table 5.

Motives for SNS Use

For H3 and R3, the overall regression model predicting civic engagement in real life from the four motives of SNS use was significant, $F(5, 659) = 10.82$, $p < .001$, $R = .28$, adjusted $R^2 = .07$. The location of participants was entered as a control variable in this model, and was positively associated with civic engagement in real life. H3 predicted that cognition needs are positively associated with civic engagement in real life, however, as shown in Table 6, this association was nonsignificant. Thus, H3 was not supported. In response to R3, entertainment needs were negatively associated with civic engagement in real life, whereas recognition needs were positively associated with civic engagement in real life. The association between affection needs and civic engagement in real life was nonsignificant (See Table 6). Interestingly, when looking at bivariate correlations, it is apparent that suppression was operating on entertainment needs, since the zero order r was close to 0, but this variable became significantly associated with civic engagement in real life when entered alongside the other variables of the motives of SNS use. Thus, the combination of having high needs for recognition along with low needs for entertainment best predicted civic engagement in real life.

For H4 and R4, the overall regression model predicting civic engagement on SNS from the four motives of SNS use was significant, $F(5, 658) = 14.77$, $p < .001$, $R = .32$,

adjusted R^2 = .09. The location was entered as a control variable in this model, and was positively associated with civic engagement on SNS. H4 predicted that cognition needs are positively associated with civic engagement on SNS, however, as shown in Table 7, this association was nonsignificant. Thus, H4 was not supported. In response to R4, entertainment needs were negatively associated with civic engagement on SNS, whereas recognition needs were positively associated with civic engagement on SNS. The association between affection needs and civic engagement on SNS was nonsignificant (See Table 7). It is important to note, however, that the bivariate correlation between entertainment needs and civic engagement on SNS was nonsignificant; this association became significant once the other variables of the motives of SNS use were entered into the regression model. This suggests that suppression was occurring and that entertainment needs were only negatively associated with civic engagement on SNS when the influence of other variables were controlled. As found for civic engagement in real life, civic engagement on SNS was best predicted by the combination of having high needs for recognition along with low needs for entertainment.

Social and Political Variables

The last set of hypotheses and research questions centered on social and political variables that may be related to civic engagement. The bivariate correlations among these variables are presented in Table 8.

Regarding H5 and R5, the overall regression model predicting civic engagement in real life from the six social and political variables was significant, $F(7, 656) = 30.29$, $p < .001$, $R = .49$, adjusted $R^2 = .24$. The location was entered as a control variable in this mode, and was positively associated with civic engagement in real life. The association

between social trust and civic engagement in real life was nonsignificant, whereas the association between social capital and civic engagement in real life was significant. Thus, H5 was partially supported. In response to R5, behavioral resistance of Internet censorship and external political efficacy emerged as positively and significantly associated with civic engagement in real life (See Table 9).

For H6 and R6, the overall regression model predicting civic engagement on SNS from six social and political variables was significant, $F(10, 652) = 17.46$, $p < .001$, $R = .46$, adjusted $R^2 = .21$. The location was entered as a control variable in this model, and was positively associated with civic engagement on SNS. H6 was partially supported, in that civic engagement on SNS was positively associated with social capital as hypothesized, but the expected positive association between civic engagement on SNS and social trust failed to emerge in the regression analysis (See Table 10). In response to R6, civic engagement on SNS was positively associated with behavioral resistance of Internet censorship and external political efficacy. Moreover, this multiple regression analysis revealed two significant interaction effects. First, there was a negative relationship between trust in government and civic engagement on SNS, and the relationship was stronger in locations with high average concentrations of PM2.5 than locations with low average concentration of PM2.5. Second, in locations with low average concentrations of PM2.5, there was a small positive association between civic engagement on SNS and behavioral resistance of Internet censorship. In contrast, in locations with high average concentrations of PM2.5, there was a negative association between civic engagement on SNS and behavioral resistance of Internet censorship. Since the interaction effect between behavioral resistance of Internet censorship and location

was disordinal, the main effect of behavioral resistance of Internet censorship on civic engagement on SNS became uninterpretable.

Table 1
Correlations between Civic Engagement and Demographics

Variables	1	2	3	4	5	6	7
1. Civic engagement in real life	-						
2. Civic engagement on SNS	.65***	-					
3. Location	.12**	.15***	-				
4. Age	-.08	.05	.06	-			
5. Gender	-.02	.06	.05	.08*	-		
6. Education level	-.02	-.05	<.01	<-.01	<.01	-	
7. Monthly family income	-.07	-.06	.13**	.33***	.09*	.37***	-

Note: ***p < .001, **p < .01, *p < .05.

Table 2
Correlations between Civic Engagement, General SNS Use and Media Exposure

Variables	1	2	3	4	5
1. Civic engagement in real life	-				
2. Civic engagement on SNS	.65***	-			
3. Frequency of SNS use	.02	.07	-		
4. Intensity of SNS use	.04	.09*	.30***	-	
5. Attention to content about China Smog on mobile Internet	.45***	.62***	.05	.13**	-

Note: ***p < .001, **p < .01, *p < .05.

Table 3
Summary of the Final Regression Model for Predicting Civic Engagement in Real Life from General Use of SNS and Media Exposure

Predictors	B	SE	β	t
Frequency of SNS use	<.01	<.01	<-.01	-.18
Intensity of SNS use	-.02	.05	.02	-.47
Attention to content about China smog on mobile Internet	.39	.03	.46	12.37***
Intensity of SNS use*Location	-.08	.04	-.08	-2.18*

Note: ***p< .001 (1-tailed), **p < .01 (1-tailed), *p < .05 (1-tailed).

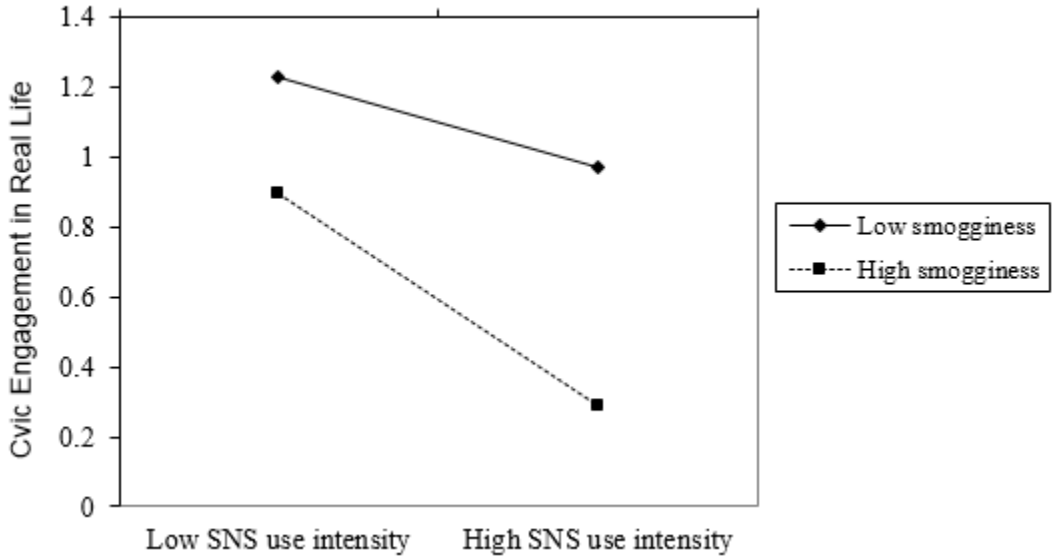

Figure 1: The interaction effect between SNS use intensity and location

Table 4
Summary of the Final Regression Model for Predicting Civic Engagement on SNS from General Use of SNS and Media Exposure

Predictors	B	SE	β	t
Frequency of SNS use	<.01	<.01	.04	1.16
Intensity of SNS use	-.01	.04	<-.01	-.27
Attention to content about China smog on mobile Internet	.57	.03	.62	19.39***

Note: ***p< .001 (1-tailed), **p < .01 (1-tailed), *p < .05 (1-tailed).

Table 5

Correlations between Motives for SNS Use and Civic Engagement

Variables	1	2	3	4	5	6
1. Civic engagement in real life	-					
2. Civic engagement on SNS	.65***	-				
3. SNS use for cognition needs	.06	.09*	-			
4. SNS use for recognition needs	.23***	.23***	.31***	-		
5. SNS use for affection needs	.11**	.13**	.61***	.64***	-	
6. SNS use for entertainment needs	.02	<-.01	.43***	.50***	.52***	-

Note: ***p< .001, **p < .01, *p < .05.

Table 6

Summary of the Final Regression Model for Predicting Civic Engagement in Real Life from Motives for SNS Use Predictors

Predictors	B	SE	β	t
Location	.12	.04	.12	3.12**
SNS use for cognition needs	.04	.07	.03	.58
SNS use for entertainment needs	-.15	.05	-.12	-2.68++
SNS use for recognition needs	.31	.05	.29	5.68+++
SNS use for affection needs	-.03	.08	-.02	-.39

Note: ***p< .001 (1-tailed), **p < .01 (1-tailed), *p < .05 (1-tailed); +++p < .001 (2-tailed), ++p < .01 (2-tailed).

Table 7

Summary of the Final Regression Model for Predicting Civic Engagement on SNS from Motives for SNS Use

Predictors	B	SE	β	t
Location	.16	.04	.15	4.07***
SNS use for cognition needs	.09	.07	.07	1.34
SNS use for entertainment needs	-.23	.06	-.19	-4.07+++
SNS use for recognition needs	.34	.06	.31	6.05+++
SNS use for affection needs	<-.01	.07	.07	1.34

Note: ***p< .001 (1-tailed), **p < .01 (1-tailed), *p < .05 (1-tailed); +++p < .001 (2-tailed), ++p < .01 (2-tailed).

Table 8

Correlations between Civic Engagement and Social and Political Variables

Variables	1	2	3	4	5	6	7	9
1. Civic engagement in real life	-							
2. Civic engagement on SNS	.65***	-						
3. Social trust	.13**	.06	-					
4. Trust in government	.16***	.02	.41***	-				
5. Internal political efficacy	.20***	.16***	.34***	.30***	-			
6. External political efficacy	.26***	.14***	.39***	.65***	.40***	-		
7. Behavioral resistance of Internet censorship	.36***	.33***	.03	-.16***	.12**	<-.01	-	
8. Social capital	.30***	.25***	.42***	.41***	.35***	.42***	.11**	-

Note: ***p< .001, **p < .01, *p < .05.

Table 9
Summary of the Final Regression Model for Predicting Civic Engagement in Real Life from Social and Political Variables

Predictors	B	SE	β	t
Location	.13	.04	.12	3.53***
Social trust	-.04	.05	-.03	-.81
Trust in government	.04	.04	.04	1.01
Internal political efficacy	.03	.05	.02	.52
External political efficacy	.16	.04	.17	3.67+++
Behavioral resistance of Internet censorship	.28	.03	.34	9.56+++
Social capital	.23	.05	.18	4.42***

Note: ***p< .001 (1-tailed), **p < .01 (1-tailed), *p < .05 (1-tailed); +++p < .001 (2-tailed), ++p < .01 (2-tailed).

Table 10
Summary of the Final Regression Model for Predicting Civic Engagement on SNS from Social and Political Variables

Predictors	B	SE	β	t
Location	.15	.04	.14	3.86***
Social trust	-.06	.05	-.05	-1.15
Trust in government	-.08	.05	-.09	-1.79
Internal political efficacy	.05	.05	.04	.96
External political efficacy	.12	.05	.12	2.54+
Behavioral resistance of Internet censorship	.24	.03	.28	7.55+++
Social capital	.29	.06	.22	5.16***
Trust in government*Location	-.12	.03	-.19	-3.89***
Behavioral resistance of Internet censorship*Location	-.06	.02	-.10	-2.83**

Note: ***p< .001 (1-tailed), **p < .01 (1-tailed), *p < .05 (1-tailed); +++p < .001 (2-tailed), ++p < .01 (2-tailed), +p < .05 (2-tailed).

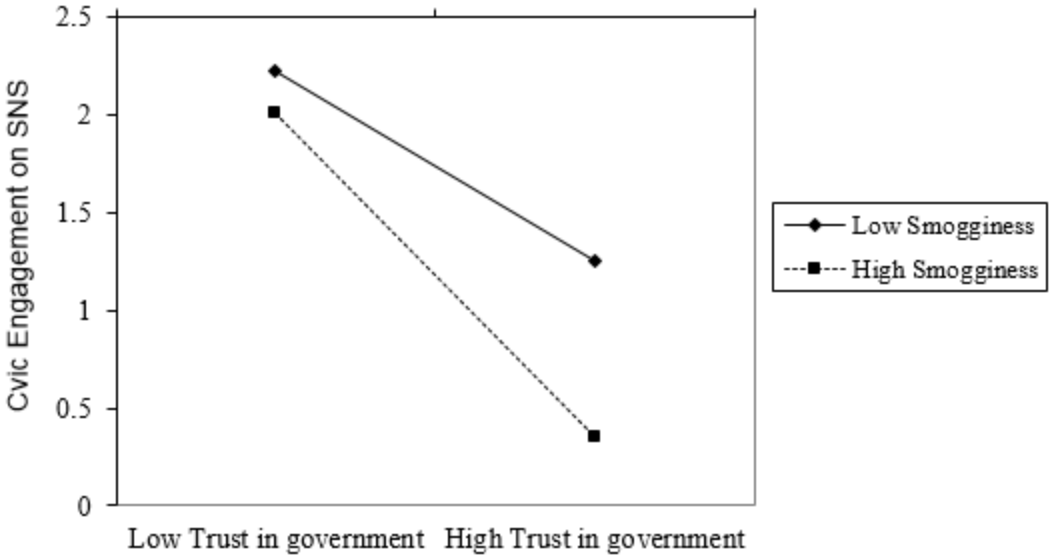

Figure 2: The interaction effect between trust in government and location

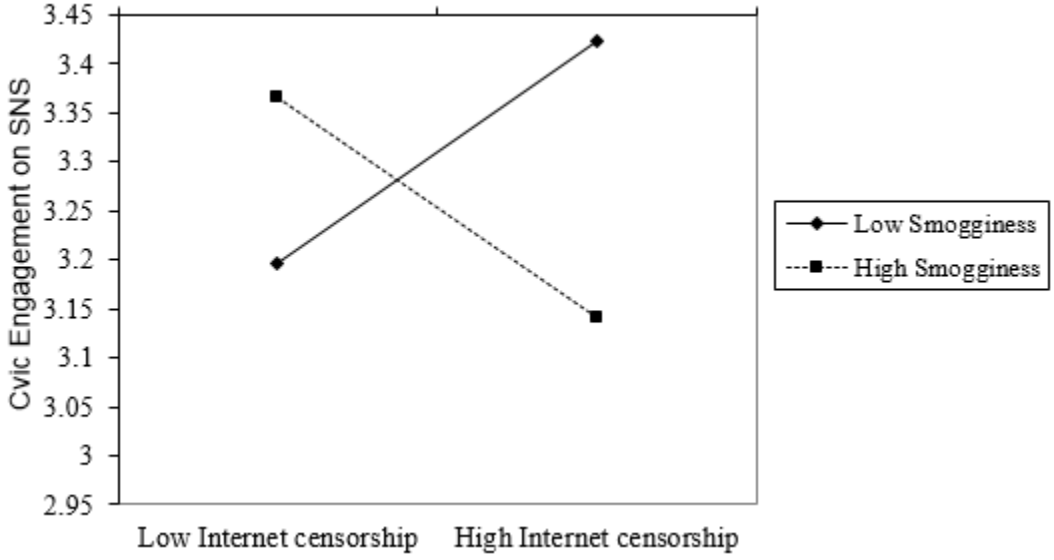

Figure 3: The interaction effect between behavioral resistance of Internet censorship and location

Table 11
Summary of the Final Regression Model for Predicting Behavioral Resistance of Internet Censorship

Predictors	B	SE	β	t
Social trust	.03	.06	.02	.51
Trust in government	-.35	.06	-.31	-6.12***
Internal political efficacy	.18	.06	.12	2.87**
External political efficacy	.07	.06	.07	1.30
Social capital	.25	.07	.16	3.63***

Note: ***p< .001 (1-tailed), **p < .01 (1-tailed), *p < .05 (1-tailed); +++p < .001 (2-tailed), ++p < .01 (2-tailed), +p < .05 (2-tailed).

CHAPTER 5

DISCUSSION

This dissertation investigated the connections between civic engagement among Chinese nationals and (a) general use of SNS, (b) media exposure, (c) motives for SNS use, (d) Internet censorship, (e) trust, (f) political efficacy and (h) social capital. The China smog, which is a "deadly" air pollution issue, created a rich context for exploring participation in civic life among Chinese nationals (Solomon, 2016). Civic engagement, involving "all activity related to personal and society enhancement," is aimed at addressing issues of common concern that ultimately better human condition (Diller, 2011, p. 22). Importantly, this project extended previous work on civic engagement by studying participation in civic life in the context of an environmental issue rather than civic engagement in general. The results also showed that uses of SNS and Internet in tandem with social and political factors, in some cases, predict civic engagement within authoritarian regimes like China. In general, the results support the notion that uses of SNS and Internet is related with civic engagement and that social and political factors shape civic engagement, both on SNS and in real life.

Civic Engagement and General SNS Use

The effect of Internet and other Internet-based platforms like SNS on civic and political engagement has been controversial (Bimber, 2001). From an instrumental perspective, Internet use is likely to have a direct and positive effect on participation in civic and political life, because access to Internet dramatically "reduces costs of information acquisition and communication" (Xenos & Moy, 2007, p. 707; Bimber, 2003; Johnson & Kaye, 2003). Previous work also suggested that the frequency and the

intensity of SNS use is related with an increase in participation in social and political issues (Chan et al., 2012; Cheng et al., 2014). Based on the Beta weights between civic engagement on SNS and (a) the frequency of SNS use ($\beta = .04$) and (b) the intensity of SNS use ($\beta < -.01$), however, the general use of SNS is not associated with civic engagement on SNS. At the same time, the Beta weights between civic engagement in real life and (a) the frequency of SNS use ($\beta < -.01$) and (b) the intensity of SNS use ($\beta = .02$) have suggested that the general use of SNS was not related with civic engagement in real life. Similarly, previous work on participation in public life and time spent on Internet did not reveal a significant association between the two constructs (Quintelier & Vissers, 2008). Contrary to the instrumental perspective, the amount of time participants spend on SNS, their emotional connectedness to SNS and the integration of SNS into their daily activities do not influence their civic engagement on SNS and in real life (Ellison et al., 2007).

Civic Engagement and Media Exposure

Internet does not only serve as sources for information about social and political issues, its technological affordances also allow users to engage in public life through multiple ways (Zhou, 2010). As predicted, attention to the China smog-related content on mobile Internet was a strong and significant predictor of civic engagement, indicating that the more participants pay attention to information such as AQI and smog alerts, the more frequently they engage in the China smog, both on SNS and in real life. The findings are consistent with previous work which suggested that exposure to political and social issues-related content (e.g., news) on Internet significantly influenced civic and political engagement (Kenski & Stroud, 2006; Xenos & Moy, 2007; Vitak et al., 2011).

To some degree, the use of Internet on mobile devices may have become a way for some Chinese nationals to acquire news and relevant information about the China smog and thus reducing their uncertainty about this air pollution issue. For instance, the Internet users of China can receive and browse articles about preventive measures of the smog on their smartphones or tablet computers at any time and at any locations as long as their mobile devices are connected to Internet. In the current study, the average frequency of exposure to the China smog-related content on mobile Internet was close to 2-4 times during the past two months. Mobile Internet provides citizens a more convenient and less costly access to knowledge on the China smog (Xenos & Moy, 2007). Attention to the China smog-related content on mobile Internet may be positively related with with the understanding and the utilization of various methods of participation in this air pollution issue. Overall, the findings confirm the mobilizing potential of Internet use for civic engagement; further, they support an optimistic view that Internet use plays an essential role in enhancing democracy (Anderson, 2003; Tolbert & McNeal, 2003).

Civic Engagement and Motives for SNS Use

The present study substantiates previous work on the effect of media use for entertainment and social interaction on civic engagement (e.g., Cheng et al., 2014). Specifically, participants with high needs of recognition and low needs of entertainment are likely to engage in the China smog, both on SNS and in real life.

SNS use for social interaction. In the current study, SNS use for recognition needs, which is one dimension of SNS use for social interaction, was positively related with civic engagement. To a great extent, civic engagement depends on basic elements of community life such as social networks that "provide the means for citizens to cooperate

on joint problems" (Shah et al., 2001, p. 142). In addition, larger networks may boost civic engagement in that they "allow people to access people, information, and resources not available in their immediate circles of contacts" (Coleman, 1988; Granovetter, 1973; as cited in Gil de Zúñiga, 2011, p. 398). SNS use for recognition needs, such as enhancing sense of belonging by creating or joining groups, may be positively related with expansion and diversification of social networks; further, participants may be presented with more opportunities to discuss community problems with other SNS users with whom they share common interests or who may hold different opinions (McLeod et al., 1999; Gil de Zúñiga, Puig-I-Abril & Rojas, 2009; Gil de Zúñiga & Valenzuela, 2011). As a result, high needs of recognition might be associated with increased exposure to "mobilizing information," such as a detailed schedule about an upcoming lecture on preventive measures of the smog or an online protest against a certain product or service which will exacerbate air pollution (Gil de Zúñiga & Valenzuela, 2011, p. 402).

In contrast, SNS use for affection needs did not influence civic engagement. One plausible explanation is that affection needs, such as "sharing position, opinion, and personal values" and "letting others know I care for them" primarily involves communication with friends and family members which is usually characterized by intimate topics or personal issues rather than social or environmental issues. The content of the conversations happening between participants and different members of their networks may be one of the factors that is related with the insignificant effect of SNS use for affection needs on civic engagement (Schmitt-Beck, 2004).

SNS use for entertainment. In this dissertation, SNS use for entertainment was negatively related with civic engagement, aligning with earlier work showing that the use

of Internet for social recreation was significantly associated with decreased level of participation in civic life (Shah et al., 2001). SNS use for entertainment is related with the inhibition of participation in the China smog because it may distract participants' attention from this environmental issue and thus potentially reduce the occurrence of "gaining knowledge, building linkages, and coordinating their actions to address joint concerns" (as cited in Shah et al., 2000, p. 144).

Interestingly, the relationship between civic engagement and SNS use for entertainment was fairly complex in this dissertation. Although the bivariate correlations between SNS use for entertainment and civic engagement on SNS and in real life were nonsignificant, this association became significant in the regression model once other independent variables were entered. This pattern of results suggests that suppression was operating. SNS use for entertainment shares some characteristics with SNS use for recognition needs and SNS use for affection needs, in that all of them were positively related with the intensity of SNS use. When the correlations that SNS use for entertainment shares with these other motives of SNS were controlled for, the unique properties of SNS use for entertainment emerged. These unique properties, which include the need of killing time, escaping from study or work pressure and having fun, are probably the part of SNS use for entertainment that is most strongly correlated with civic engagement, both on SNS and in real life.

SNS use for cognition needs. Although previous work suggested that SNS use for cognition needs like information exchange significantly predicted civic and political engagement, the current study did not reveal a significant association between the two constructs. The foci as well as the criterion variables of this study are participation in the

China smog on SNS and in real life rather than civic engagement in general. Thus, SNS use for cognition needs such as "understanding events happening" and "finding out what is going on in society" may not be related with increased access to volumes of information on the China smog that mobilize participation in this particular issue. For instance, citizens using SNS for understanding events happening around different regions of China and different countries of the world may encounter little smog-related content or pay little attention to these content, such as news articles about the measures the Chinese government has recently adopted to solve the air pollution issue, announcements about community activities for reducing the detrimental effects of the smog on health, contact information about certain environmental protection agency and so on. The findings indirectly corroborate existing work which have shown that the content that citizens watch on media affect their civic engagement (Hawkins & Pingree, 1981; Norris, 1996; as cited in Xenos & Moy, 2007). In this sense, SNS use for obtaining information or knowledge irrelevant to the China smog does not have any influence on participation in this environmental issue.

Civic Engagement and Political and Social Factors

The current study supports previous work on the effect of political efficacy and social capital on civic engagement. In the meantime, it extends past research on Internet censorship by showing that behavioral resistance of Internet censorship had a positive main effect on civic engagement in real life. Overall, high level of external political efficacy and social capital is related with growth of participation in the China smog, both on SNS and in real life. In addition, increased behavioral resistance of Internet censorship is associated with high level of participation in the China smog in real life.

Social trust. Regression results showed no relationships between social trust and civic engagement, both on SNS and in real life. In authoritarian regimes like China, civic engagement is a private issue usually occurring among families, friends and on the Internet (Wallis, 2011). Due to the repression of the Chinese government, collective action rarely happens in real life (Cheng et al., 2014). Social trust, conceptualized as "the perception that other people are, in general, fair, trustworthy, and helpful," is important for promoting "collective behaviors" and supporting "a cooperative social climate" (Cappella, 2006, p. 23). The criterion variables of the current study, however, are the civic engagement at individual level rather than collective action that "emphasize collaboration with others in a variety of venues," such as working on air quality testing with members of NGOs (Hollister, 2002). Thus, it is conceivable that social trust did not have a significant effect on participation in the China smog, such as sharing a news article about this environmental issue on SNS or avoiding using a certain product that may negatively influence air quality.

Trust in government. The multiple regression analyses find little evidence of a relationship between civic engagement and trust in government, although some previous studies showed that civic engagement was either related with greater or less trust in government (e.g., Gil de Zúñiga, 2011; Goldfinch et al., 2009). The results indicate that participants' perceptions of effectiveness of law enforcement, fairness of judicial system, and openness and transparency of the government is neither related with increase nor decrease in participation in the China smog, both on SNS and in real life. Perhaps trust in government merely mirrors "citizens' assessment of current administrations," and it is irrelevant with the policies or the action that current administrations have carried out for

solving the China smog (Levi & Stoker, 2000, p. 490). Alternatively, trust in government may be related with a belief in the capability of government institutions for handling the smog or a fear of political repercussion associated with civic and political engagement. For instance, participants with high level of trust in government might not feel motivated to engage in the smog, partly because of their perception that the government institutions of China are able to resolve this air pollution issue. Further, participants with low level of trust in government avoid participating in the smog due to a fear of penalty for behaviors against the state, such as posting content that "directly challenge the legitimacy of the party-state" on Internet (Bovingdon, 2010; Yang, 2012; Mou et al., 2011).

Political efficacy. In the present study, internal political efficacy was not related with civic engagement on SNS and in real life, contradicting the view that "without a sense of internal political efficacy, citizen will likely become apathetic about, indifferent to and disengaged from the democratic process" (Morrell, 2005, p. 49). Rather than supporting previous work on the positive effect of internal political efficacy on participation in civic and political life, the results imply that "citizens' confidence in their own political capacities" is not associated with their participation in the China smog (Coleman, Morrison & Svennevig, 2008, p. 772; Mou et al., 2011). It is likely that the participants of the current study do not believe that their "individual action does, or can have an impact upon" the process of solving the air pollution issue (Campbell, Gurin & Miller, 1954, p. 87). In other words, the phenomenon may be related with the perception that it is not worthwhile to communicate with government institutions about the smog issue, in that they are unlikely to care or adopt the suggestions of lay Chinese nationals.

Nonetheless, the findings from this dissertation indicates that high level of external political efficacy is associated with increased civic engagement, both on SNS and in real life (e.g., Mou et al., 2011). Consistent with previous research, "citizens' perceptions of responsiveness of the political system to their demands" play a positive role in participation in the China smog (Craig et al., 1990, p. 290). As Mill suggested, citizens who are given full access to government institutions tend to "feel completely capable of participating in" civic and political life (Morrell, 2005, p. 52). For instance, when government institutions featuring openness, transparency, responsiveness and egalitarianism are readily available, citizens are likely to have a belief that writing an email addressing air pollution issues to a certain municipal bureau of environmental protection may influence government policy (Gastill, 2000a).

Social capital. Similar to past research, social capital was positively related with civic engagement (Putnam, 2000; Gil de Zúñiga, 2012). As a function of resources embedding in connections between community members or ties in social networks, social capital contributes to increased participation in the China smog on SNS and in real life (Lin, 2008; Shah & Gil de Zúñiga, 2008; Granovetter, 1973). "Social connectedness within a community," rather than "being a member of a community," may provide participants more opportunities to collaborate with each other to engage in this air pollution issue (Molyneux et al., 2015, p. 3). For instance, the stronger the sense of belonging to a community is, the more frequently ordinary citizens will work together to organize or attend public benefit activities on environmental protection (Zhang & Chia, 2006).

Behavioral resistance of Internet censorship. The current study showed a positive main effect of behavioral resistance of Internet censorship on participation in the China smog in real life, while some research indicated that a negative relationship between repression and surveillance from the Chinese government and (1) collective action and (2) civic participation at individual level, both online and offline (Cheng et al., 2014; Sullivan, 2014). In other words, participants using technological or non-technological methods such as expressing truthful opinions through coded languages or visiting blocked foreign websites to frequently resist Internet censorship policies have a high propensity to participate in the China smog in real life. One plausible explanation is that participants engaging in behaviors resisting Internet censorship are citizens who are aimed at bringing about social change within China through civic engagement (Clothey et al., 2015). For instance, the citizens might be online activists or environmentalists who are interested in influencing government action or promoting pro-environmental behaviors by obtaining information about the China smog from blocked foreign websites (e.g., YouTube) and then using these information to organize events to increase the awareness of this environmental issue among their community members.

Moderation effects

Regression results indicated that the intensity of SNS use has a stronger negative relationship with participation in the China smog in real life among participants from locations with high average concentrations of PM2.5 than those from locations with low average concentrations of PM2.5 (See Figure 1). In fact, the intensity of SNS use is the only indicator of SNS use in this study for which location yields a significant interaction effect, suggesting a distinctive pattern of the relationship between SNS use, geographical

locations, and civic engagement. This finding reaffirms the time displacement hypothesis by showing that Internet use is associated with decline in participation in civic life as what television watching has done (Putnam, 2000; Jennings & Zeitner, 2003).

In addition, the effect of behavioral resistance of Internet censorship on civic engagement on SNS is qualified depending on average concentrations of PM2.5 of locations, rendering the main effect of behavioral resistance of Internet censorship on civic engagement on SNS meaningless (See Figure 2). A post hoc analysis suggests that high level of behavioral resistance of Internet censorship is significantly associated with low level of trust in government (See Table 11). To some degree, behavioral resistance of Internet censorship, such as "using veiled language…to make a direct point, in an indirect way," reflects indirect subversion against the Chinese government (Clothey et al., 2015, p. 8). The goal of "expressing of controversial opinions on controversial topics" might be "creating consciousness within their community about the issues relevant to them" (Clothey et al., 2015, p. 14). For locations with high average concentrations of PM2.5, behavioral resistance of Internet censorship was negatively related with civic engagement on SNS. It is likely that in these highly polluted areas, participants who often engage in behaviors of resisting Internet censorship realize that online activism such as civic engagement on WeChat or Weibo cannot help solve heavy smog and is associated with certain cost. Alternatively, they might be too desperate about this air pollution issue to participate in it on SNS. For instance, the Chinese nationals may feel that the Chinese government is unlikely to be responsive to them in terms of the personal opinions on the smog they have expressed on SNS. On the contrary, in locations with low average concentrations of PM2.5, participants who frequently resist Internet censorship through

various ways may think that civic engagement on SNS is effective in sharing knowledge on the smog such as relevant preventive measures and thus helping their families and friends understand how to protect themselves from air pollution. Consequently, it is logical that in less polluted areas, increased behavioral resistance of Internet censorship is related with high level of participation in the China smog on SNS.

Finally, decreased trust in government is related with more civic engagement on SNS across multiple geographical locations (See Figure 3). As Mou et al. (2011) and Goldfinch et al. (2009) have suggested, low trust in government may motivate citizens to find alternative ways to communicate discontent and resist the current administration. Further, as trust in government goes up, the gap of civic engagement on SNS between participants from locations with high average concentrations of PM2.5 and participants from locations with low average concentrations of PM2.5 becomes bigger. In locations with high average concentrations of PM2.5, the relationship between trust in government and civic engagement on SNS is stronger, suggesting that trust in government plays a more important role in civic engagement on SNS among participants from these areas.

Implications of the Research for Theory and Praxis

In the context of the China smog, the current study applies existing theories of civic engagement, uses of Internet and SNS, Internet censorship, media exposure, trust, political efficacy and social capital to an under-researched context characterized by authoritarianism. An overall perusal of the findings from this dissertation suggests that the civic engagement's connection to (a) patterns of media use and (b) social and political attitudes in a general context is somewhat consistent with the civic engagement's connections to (a) patterns of media use and (b) social and political attitudes in

authoritarian regimes like China. Overall, the relationships between civic engagement and Internet use, such as exposure to the China smog-related content on mobile Internet, reaffirm previous work on civic engagement in general and exposure to mass media (e.g., Sotirovic & McLeod, 2001; Shah et al., 1998). In addition, civic engagement is related with SNS use for entertainment and for recognition needs, confirming the UGT by supporting results in contexts of Internet and mobile devices (e.g., Campbell & Kwak, 2010; Shah et al., 2001). The present study also shows that civic engagement is associated with social and political attitudes, involving social capital and external political efficacy, as demonstrated in research on online and offline participation in social and political issues (e.g., Mou et al., 2011; Gil de Zúñiga, 2012). Importantly, this dissertation illuminates the significant relationships between civic engagement and behavioral resistance of Internet censorship, which has not been widely substantiated by empirical research in communication studies.

The current investigation includes some distinctive strengths. First, this dissertation adds to the literature on civic engagement by focusing on a rarely examined, yet important issue, as smog is a severe environmental problem that not only harms the health of human beings, but also contributes to global warming (Pandey, 2015). Also, this dissertation implements theories of civic and political participation developed in contexts of democratic regimes to civic engagement in authoritarian regimes. Second, in the present study, civic engagement was measured into two dimensions: participation in the China smog on SNS and in real life, and the measures were developed based on the consideration of the political, social and cultural context of China. Historically, studies on civic engagement have employed measures of general civic engagement (e.g., Campbell

& Kwak, 2000; Gil de Zúñiga, 2012). Third, the current study evaluates the effect of behavioral resistance of Internet censorship on participation in the China smog, expanding the theories about the relationship between political forces and civic engagement. Fourth, when assessing the effect of media exposure on civic engagement, this study examines attention to the China smog-related content on mobile Internet rather than Internet in general. Thus, it provides insights into the role of the use of Internet on mobile devices such as smartphones and laptops in communicating knowledge on environmental issues and thus promoting civic engagement among Chinese nationals. Lastly, in this dissertation, the connection between geographical locations and participation in the China smog were established. The geographical locations of participants were considered as a control variable of the multiple regression analyses to eliminate its confounding effect on the estimation of the results. Because the severity of the smog varies by cities or provinces of China, civic engagement may be influenced by the locations.

Notably, a series of moderation effects revealed in the current investigation underline the significant role that the locations play in participation in the China smog. The present study importantly suggests that the relationships between civic engagement and (a) the intensity of SNS use (b) trust in government and (c) behavioral resistance of Internet censorship vary by locations. In locations with high average concentrations of PM2.5, civic engagement has strong negative relationships with trust in government and the intensity of SNS use, whereas the relationships are relatively weak in locations with low average concentrations of PM2.5. It appears that in highly polluted areas, SNS use and trust in government have greater influence on civic engagement. In addition, whether

behavioral resistance of Internet censorship boosts or inhibits civic engagement depends on the locations.

The current study serves a critical role in understanding the central and significant influence of uses of Internet and SNS on civic engagement in contexts of authoritarian regimes with "a long history of repressing citizens' expression" (Wu, 2014, p. 105). Based on the current study's sample, high level of exposure to the China smog-related content on mobile Internet contributes to increased participation in this air pollution issue. Further, participants with higher level of SNS use for recognition needs and lower level of SNS use for entertainment tend to frequently engage in the China smog. Technological professionals such as software engineers or developers may use this information to improve functions of mobile apps and traditional websites that facilitate social interaction and increase users' exposure to environmental, social and political issue-related content. Officials of the Chinese government, who are interested in enhancing air quality and reducing air pollution, may use this information to channel uses of SNS and Internet in directions of social interaction and environmental protection.

The present study is also important in providing a venue to identify political and social factors that effectively foster or hinder participation in social or political issues, both on SNS and in real life. In particular, a combination of the perception of higher responsiveness of government institutions to citizens' demands and the stronger sense of belonging to a community are likely to result in increased participation in ameliorating the China smog. These information regarding the characteristics of the participants may enable environmentalists, such as members of NGOs, to discover and pick out more

citizens who are likely to engage in the China smog to solve this air pollution issue and to better benefit the public.

Limitations

Although the present study has these strengths, it is important to note its limitations. First, the current investigation uses a non-random sample. As a result, a majority of the participants were citizens from urban areas of China, such as provincial capitals or municipalities directly controlled by the Chinese central government. The generalizability of the findings to other populations, such as citizens from rural areas of China, could be potentially problematic given that the adoption of ICTs in urban areas of China is higher than that in rural areas of China (Fong, 2009). Generalizing to democratic regimes could also be problematic because "China is characterized by authoritarian regime which lacks fundamental attributes of a democratic society, such as freedom of speech, plural political systems, fair and open elections, and an independent judiciary" (Yuan, 2010, p. 497). The political factors have been playing a powerful role in the media system of China, including Internet use of lay Chinese nationals, thus they may contribute to differences in civic engagement between China and countries characterized by democratic regimes (Esarey & Qiang, 2011).

Second, this study uses a self-report questionnaire to explore behavioral resistance of Internet censorship and political attitudes. The questionnaire includes some relatively sensitive questions that have political implications. Consequently, it may pose "the threat of disclosure" to participants and raise their "concerns about possible consequences of a truthful answer should the information become known to a third party" (Tourangeau & Tan, 2007, p. 860). Factors like social desirability, honesty and introspective ability,

interpretations of survey questions and rating scales and response bias may increase measurement error and influence the results of the present study (Hoskin, 2012). Future research may utilize observational methods and content analyses to examine actual participatory behaviors rather than reported behaviors.

Third, this dissertation project is a cross-sectional study, suggesting that "all the measurements for a sample member are obtained at a single point in time" (Sedgwick, 2014, p. 1). It is possible to record general SNS use, media exposure, motives of SNS use and multiple social and political factors and to assess both civic engagement on SNS and in real life in this cross-sectional study. However, "because data on each participant are recorded only once it would be difficult to infer the temporal association between" the predictors and the criterion variables (Sedgwick, 2014, p. 2). Thus, it is unable to infer that attention to the China smog-related content on mobile Internet preceded participation in a public benefit event about air pollution and other causal relationships between the measures (Sedgwick, 2014). For future studies, it would be helpful to employ longitudinal analyses, which "allow the modelling of the dynamic process generating the outcome," to "establish causal relations" between civic engagement and other factors (Wunsch, Russo & Mouchart, 2010, pp. 5-6).

Practical Recommendations and Future Research Directions

In spite of these limitations, this study enriches perspectives on civic engagement on SNS and in real life and produces some valuable findings. In addition, this dissertation suggests practical recommendations and future research directions. One recommendation would be designing campaigns for air pollution. For instance, members of NGOs as well as officials of the Ministry of Environmental Protection of the People's Republic of

China may design a program named “Better Air, Less Driving” for raising awareness about the effect of motor vehicles on exacerbating the smog and persuading the general public to adopt public transportation when commuting. The program may enable Chinese nationals to learn why motor vehicles leads to worse air quality and how uses of public transportation system, biking, walking and ridesharing can help improve air quality and benefit them in terms of health and living expenses. As the present study indicates, more attention to the China smog-related content, such as campaigns for reducing the smog, may be related with increased involvement in this environmental issue like uses of subways, buses and bikes.

A second practical recommendation would be designing online or mobile games on air pollution for educating children and teenagers on factors associated with high average concentrations of PM2.5 and health consequences of the smog. Game players are invited to figure out correct ways for protecting themselves against unclean air and reducing air pollution. Accumulation of exposure to knowledge on the smog via games might be related with high level of participation in the China smog in real life, such as frequent use of anti-pollution masks.

Another recommendation would be designing mobile apps or adding features to mobile apps that encourage participation in the China smog. Software engineers of WeChat, the most popular messaging app of China, may create functions that enable users to create or join location-based communities for improving air quality of a specific area. For instance, users of the mobile communities may connect with their neighbors and other local residents and exchange information on community activities like riding trips that can help reduce air pollution and enhance health conditions. Developers of Didi

Chuxing, a major ride-sharing company, may add the function of location-based communities that promote carpool commuting and group travel for 3 passengers or more. Given the positive relationship between SNS use for recognition needs and civic engagement, creating or joining location-based communities through mobile apps may be associated with high level of participation in the China smog.

Future research on civic engagement should consider use of experimental methods to examine causal relationships between media exposure variables and participation in environmental issues and to identify other potential causal factors. For example, researchers may manipulate media exposure by varying the amount of the China smog-related content. Specifically, participants of control groups will be exposed to thirty pieces of news regarding foreign relations of China on mobile apps, while participants of treatment groups will be exposed to thirty pieces of news regarding the effect of the smog on health on mobile apps. Experimental methods enable researchers "to isolate and test" the effects of the amount of exposure to air pollution-related content and exposure to various content of air pollution on civic engagement, both online and in real life (Iyengar, 2002, p. 2).

Another future research direction on civic engagement within China is to consider the effect of informal discussion of environmental issues. For instance, researchers may investigate motivations for online and FtF informal discussion of the China smog and the effects of the motivations on participation in this particular issue. This line of research may shed light on why individuals talk about public affairs with members of their social networks and how the informal conversations can hinder or boost civic engagement (Gil de Zúñiga et al., 2016).

The third direction for future research on civic engagement concerns research on participation in environmental issues other than the smog. “Current environmental problems make us vulnerable to disaster and tragedies, now and in the future” (Singh, 2017). For example, electronic waste such as batteries and laptops could contaminate the ground water, surrounding oil and air, since it contains toxins (NG, n.d.). Genetic engineering may also be important to investigate, since it might cause a series of health issues like allergies and endanger ecological systems (Union of Concerned Scientists [UCS], n.d.).

Conclusion

Although there has been a large amount of literature on civic engagement, little is known about civic engagement within authoritarian regimes. Civic engagement seems to be important for solving issues of common concern. The China smog, a severe air pollution issue, is an ideal context for examining civic engagement, in that this issue has endangered the health of a large number of Chinese nationals. This dissertation project takes the first step toward uncovering how civic engagement in authoritarian regimes functions in context of environmental issues. The results of this dissertation indicates the critical role that uses of Internet and SNS play in understanding how civic engagement is linked to the solution to environmental issues. Scrutinizing various dimensions of uses of Internet and SNS and multiple social and political factors enable practitioners to better understand civic engagement within China and can help figure out more effective ways of civic engagement on Internet and in real life to solve the most pressing environmental issues this country is facing.

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APPENDIX A

HUMAN SUBJECT APPROVAL

Pauline Cheong
Human Communication, Hugh Downs School of
480/965-8730
Pauline.Cheong@asu.edu

Dear Pauline Cheong:

On 10/25/2016 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Civic Engagement in China: Roles of social network sites use, perception of Internet censorship, media exposure, political attitudes and social capital
Investigator:	Pauline Cheong
IRB ID:	STUDY00005020
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• interview questions_Chinese, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Interview questions_English, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Survey in Chinese, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • recruitment_survey_English, Category: Recruitment Materials; • consent letter_English_interview, Category: Consent Form; • consent letter_Chinese_interview, Category: Consent Form; • consent_survey_English, Category: Consent Form; • recruitment_interview_English, Category: Recruitment Materials; • HRP-503a - updated_Oct_24th.docx, Category: IRB Protocol; • recruitment_interview_Chinese, Category: Recruitment Materials; • consent_survey_Chinese, Category: Consent Form;

	• recruitment_survey_Chinese, Category: Recruitment Materials; • Survey_English.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Translation form, Category: Translations;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 10/25/2016.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Yashu Chen
Yashu Chen