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Talking about health and health-related issues: an inquiry into the social media use of Chinese celebrity physicians and their fans

Li Chen
University of Iowa

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TALKING ABOUT HEALTH AND HEALTH-RELATED ISSUES: AN INQUIRY
INTO THE SOCIAL MEDIA USE OF CHINESE CELEBRITY PHYSICIANS AND
THEIR FANS

by

Li Chen

A thesis submitted in partial fulfillment
of the requirements for the Doctor of Philosophy
degree in Mass Communications in the
Graduate College of
The University of Iowa

May 2016

Thesis Supervisors: Assistant Professor Rachel Young
Professor Lyombe Eko

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CERTIFICATE OF APPROVAL

PH.D. THESIS

This is to certify that the Ph.D. thesis of

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has been approved by the Examining Committee for
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ABSTRACT

Since the beginning of the 21st century, the doctor-patient relationship in China has become increasingly confusing to observers. On the one hand, insiders of the medical discipline believed that the doctor-patient relationship could not even be worse. On the other hand, Chinese health care professionals appeared to be much more popular than they used to be. On the leading social media site, Weibo, many health care professionals managed to transform themselves into celebrities by producing content and interacting with ordinary social media users. These grassroots celebrity physicians have obtained tens of thousands, and even millions, of social media fans on Weibo, and they initiated online conversations about public controversies surrounding health and medicine, such as the doctor-patient relationship, health care reform, the use of Traditional Chinese Medicine, and so on.

The seemingly conflicting phenomena reflected the crises Chinese health care professionals were facing and their struggles to free themselves from these crises. Distrusted by the public, health care professionals attempted to repair their reputations and to rebuild a relationship of trust through their efforts in cyberspace. In other words, health care professionals' social media activities were largely a response to the frustrations they had experienced in their professional careers. In turn, being liked by numerous social media users reflected the public's need to have direct conversations with health care professionals.

This study used textual analysis, in-depth interviews, and surveys 1) to explore Chinese celebrity physicians' motivations for and gratifications obtained from establishing a professional presence via social media; 2) to examine the online conversations between celebrity physicians and their social media fans; and 3) to discuss the potential medical, political, and cultural outcomes of their online activities. Results of the study suggested that celebrity physicians in

China mainly used social media to achieve three goals: to increase public health literacy, to rebuild their professional identities, and to push the government to make changes to the current health care system. Accordingly, celebrity physicians were found to play multiple roles on Weibo: medical experts, opinion leaders, and celebrities. Each of these roles were performed and recognized by their social media fans in different ways, indicating the complexity of virtual social networks.

By analyzing Chinese celebrity physicians' online narratives and examining the factors that shaped their online activities, the project further explored the sociological factors contributing to digital media use, revealed the multiple connections contributing to the formation of virtual social networks comprised of celebrity physicians and their social media followers, and studied the presentation of cultural tension in cyberspace. From the practical perspective, future scholars and advocates could use the findings of this study to better design health and science campaigns. From the theoretical perspective, this study expanded the scope of the uses and gratifications approach, proposed new angles for examining the doctor-patient and the celebrity-fan relationships, and discussed the online presentation of, and inherent nuances contributing to, cultural conflicts.

PUBLIC ABSTRACT

The study examined the online activities of Chinese celebrity physicians and their social media followers. In this study, Chinese celebrity physicians refer to health care professionals who present their professional identities on Weibo, the Chinese version of Twitter, and who obtain a large following of fans. The big question of this study is: why do these health care professionals spend so much time creating health-related content and interacting with their fans via social media, and how do they manage to convert themselves into celebrities?

I identified three factors that explain celebrity physicians' social media activities. First, celebrity physicians would like to produce social media content to increase public health literacy. Second, celebrity physicians hope to use their Weibo posts to reconstruct their identities as ethical medical professionals. Finally, they would like to use social media to expose the institutional deficiencies of the health care system in order to encourage the public to push the government to make changes. An analysis of the social media content produced by celebrity physicians further illustrated the particular discourses they built to achieve these goals. A survey of ordinary social media users suggested that celebrity physicians' online activities have slightly increased public trust of doctors.

The study further explored the role of social media in mediating doctor-patient relationships, in promoting large-scale debates surrounding public controversies, and in reconstructing a public discourse about science and culture within a particular social and political context like China.

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CHAPTER 1

INTRODUCTION

Since the beginning of the 21st century, the doctor-patient relationship in China has become increasingly confusing to observers. Insiders of the medical discipline even believed that the doctor-patient relationship could not be worse. Between 2010 and 2014, *The Lancet*, the top UK medical journal, continually published a series of editorials and correspondences addressing the increasingly deteriorating state of the doctor-patient relationship in China (e.g., *The Lancet*, 2010; *The Lancet*, 2012; *The Lancet*, 2014). These articles suggested that Chinese health care professionals were frustrated by distrust from patients and workplace violence against them. In China, in 2012, more than 60% of respondents to an online survey indicated that they were happy to hear about the death of a doctor who had been attacked by his patient (“Survey suggested that more than 60% of the public”, 2012). The public’s indifference in cases like this underlined the declining reputation of health care professionals.

Despite these disappointing facts, Chinese health care professionals in the 21st century appear to be much more popular than they used to be. Since 2012, Yu Ying, a physician working at Beijing Xiehe Hospital, has become increasingly popular across the nation: media production companies hired her as the consultant for new medical dramas (e.g., “Superwoman Yu Ying”, 2013), publishers invited her to make appearances at book releases to promote new books (e.g., “Women’s health bible”, 2014), and her resignation from Xiehe Hospital in 2013 was covered as a big news event that received much public attention (e.g. Ke, 2013, and “Beijing Xiehe Emergency Department’s female doctor”, 2013). Few people knew of Yu before the end of 2011, when she established her social media account on Weibo, a popular Chinese social media site that is often considered a Chinese version of Twitter. Naming herself as “superwoman Yu Ying

at the emergency department” (*JizhenKe Nv Chaoren Yu Ying*), Yu frequently published posts and had regular conversations with her followers. Social media users liked Yu and they often referred to her as “the superwoman”. By the end of 2014, Yu had more than 270,000 followers. A large number of health care professionals like Yu managed to transform themselves into celebrities by producing content and interacting with the public via social media.

The seemingly conflicting phenomena reflected the crises Chinese health care professionals were facing and their struggles to free themselves from these crises. Distrusted by the public, health care professionals attempted to repair their reputations and to rebuild a relationship of trust through their efforts in cyberspace. In other words, health care professionals’ social media activities were largely a response to the frustrations they had encountered in their professional careers. In turn, their popularity among numerous social media users reflected the publics’ needs to have direct conversations with health care professionals. These health care professionals managed to convert themselves into grassroots celebrity physicians as they obtained a large number of fans other than their patients and attempt to generate impact within the virtual social network. They could be considered celebrity physicians because they played roles similar to other well-known celebrity physicians described by previous literature, such as Dr. Drew Pinsky who launched medical television shows (Robbins, 2011) and Dr. Ian Smith (Rodriguez, 2011) who created an online community addressing weight control.

Previous health communication research has explored how health care professionals have used new technology during interventions (e.g., Glueckauf & Lustria, 2009), and how people have used health-related websites to offer and to accept different types of support (e.g., Johnson & Case, 2012; Wright, 2009). The interactions examined by these studies were typical fiduciary doctor-patient interactions: health care professionals used new media to better provide health-

related services, while users were involved in the interactions because of their interest in a specific type of illness. However, the interactions between health care professionals like Yu and their followers were different: users followed Yu just like they followed other celebrities, and their conversations covered a wide range of topics in addition to the medical area Yu's medical expertise. Their interactions went beyond the traditional doctor-patient relationship; they were more similar to the relationships between pop star and their fans. Therefore, it is worth exploring what motivated health care professionals to transform themselves into celebrities, how they interacted with their social media fans, and what potential social consequences they could foresee.

This study had two aims. First, by analyzing celebrity physicians' Weibo content and probing into their motivations for establishing a professional presence in cyberspace, the study examined the roles of celebrity physicians like Yu Ying in re-interpreting conventional health-related discourse and in mediating the doctor-patient relationship. Second, they study studied the ways celebrity physicians utilized social media to achieve their professional and political goals.

Significance of the study

At the theoretical level, this study expands the uses and gratifications in health communication literature from the traditional fiduciary relationship between doctors and patients to the celebrity-fan relationship. The study also explores the political and cultural dimensions of uses and gratifications and online interactions in the context of the dynamic situation in China. Few previous studies have examined both the medical and political aspects of online interactions between health care professionals and their social media followers. These discussions certainly had a health focus, but they were inherently political as well. Celebrity physicians could be critics and defenders of the health care system in these dialogues. Both roles have profound

implications. As critics, did they use social media as a tool to disseminate information about the system that they were not allowed to publish in conventional media? Did social media followers read doctors' posts to obtain information about the inner workings of the system that was not available in the conventional media? If celebrity physicians complained about health care policies, to what extent were they politically motivated? As defenders of the profession, how did celebrity physicians build and enhance their professional reputation on social media? The interactions between celebrity physicians and their social media fans will reveal these political aspects of online conversations within virtual social networks.

Most research on Chinese Internet users has had a political focus (e.g., Lei, 2011). Researchers often applied concepts from contemporary political science to explain communication phenomena. The political aspects illustrated the profound social implications of digital media use at the macro level. However, these studies only placed the cases within the current scholarly framework and tested whether theories and concepts identified by Western scholars were applicable to the Chinese context. For example, Yang (2003) revealed that a weak and incipient public sphere prohibited China from building a civil society, but why a strong public sphere had not developed in contemporary China remained to be explained. As such, Internet use and its consequences cannot be sufficiently explained without considering its cultural context.

The cultural context of this study involved an ongoing public debate over Traditional Chinese Medicine (TCM). TCM is an ancient medical approach that was incompatible with conventional medicine, but it has strong influence in Asian countries especially in China (Gu, 1999; Liu & Cao, 2012). The ways celebrity physicians treated TCM could have an important impact on their relationship with their followers: it was a subtle and sensitive art to convey their

understandings of TCM to their followers. Discussing TCM in a way that was in conflict with public perceptions could create distrust between doctors and the public, which could affect the celebrity-fan relationship. The study explored how health care professionals handle this controversial cultural issue in their dialogues with their social media followers: how did they perceive the role of TCM in establishing their professional presence? Was it a tool to strengthen their credibility, or a threat to their professionalism? The answers to these questions could reveal the role of culture in mediating the relationship between experts and the general public.

CHAPTER 2

THE POLITICO-CULTURAL CONTEXT OF SOCIAL MEDIA USES AND GRATIFICATIONS

This chapter provides an overview of the politico-cultural and social context in which the celebrity physician phenomenon is situated. The features of the health care system in China and its deficits are crucial to this study because they have largely motivated celebrity physicians' media use. The controversies over Traditional Chinese Medicine offer a historical background of the cultural tension between modern science and cultural traditions in China. This tension is still visible in contemporary society. Finally, an overview of Internet laws and regulations in China explains the restrictions placed on celebrity physicians' social media activities.

Evolution of the contemporary health care system in China

Built during the Maoist era in the 1950s, the health care system in China has typical elements of a 20th-century socialist medical system as well as its own unique features. Before the marketization of health care service in the early 1980s, hospitals were owned, funded and run by the government, and the registration of all medical practitioners were led by the Ministry of Health rather than by other professional organizations (Lucas, 1982; Ma et al., 2008). The Ministry of Health (MoH) was renamed the National Health and Family Planning Commission (NHFPC) in 2014, and it reported directly to the State Council ("What we do", 2014).

The primary function of MoH (or NHFPC) is to draft laws and regulations for health, family planning, and the development of TCM; to plan the source allocation of medical care, public health, and family planning services; to establish a basic pharmaceutical system to standardize drug prices; and to supervise and administer public health, medical care, and family planning services ("What we do", 2014). MoH rules dozens of departments and bureaus,

including the Department of Law and Regulation, the Department of Health Care Reform, the Health Emergency Response Office, the Bureau of Disease Prevention and Control, the Bureau of Medical Administration, the Department of Primary Health, the Department of Maternal and Child Health, the Department of Food Safety Standards, Risk Surveillance and Assessment, the Department of Drug Policy and Essential Medicine, the Department of Community Family Planning, the Department of Family Development, the Department of Health Science, Technology and Education, and so on (“Departments”, n.d.). The names of these departments and bureaus suggest that MoH administers almost all the issues concerning medicine and public health in the nation.

To ensure that citizens had equal access to the health care system regardless of their ability to pay, the Department of Drug Policy and Essential Medicine, under MoH, controlled budgets and provided funding to all the sectors of the health care system (Ma et al., 2008). Medical students are required to pass the exam organized by the Medical Licensing Examination Committee, also under MOH, in order to get their medical licenses (“A Brief Introduction of Medical Licensing Examination”, 2014). There are few independently practicing specialists in the country; instead, the majority of doctors are hospital employees, who are expected to pursue both the functional responsibilities and policy goals of the state (Blumenthal & Hsiao, 2005; Lucas, 1982; Qian & Blomqvist, 2014).

The Chinese public health infrastructure primarily includes three types of institutions: hospitals, basic health care agencies, and specialized public health institutes. Hospitals include comprehensive hospitals that practice conventional medicine, TCM hospitals, and specialized hospitals; basic health care agencies include neighborhood service centers/stations, street health care centers, village health care centers, village clinics, and outpatient departments/offices;

specialized public health institutions include disease prevention and control centers at different levels, hospitals for preventing and curing particular diseases, maternity and child care offices/stations, and public health supervising offices/centers (“China Statistical Year Book”, 2014). Besides being categorized by their primary functions, public health institutions are also ranked by their scale and influence. The terms tertiary, secondary, and primary levels are used to describe the position of a hospital in the hierarchical health care system (Hsiao, 1995; Qian & Blomqvist, 2014). Governmental sectors, such as the Ministry of Health and the Central Pricing Commission, determine the operations of hospitals, including the pricing of medicine and services, the allocation of medical resources, and the benefits of joining the state-endorsed health insurance program (Yip et al., 2010).

Since the early 1980s, together with the trend of the privatization of China’s economy, the marketization of health care services occurred first in the rural areas and then in the city (Blumenthal & Hsiao, 2005; Cao & Wang, 2005). The government started to encourage hospitals to run and finance themselves (“*zizhu jingying, zifu yingkui*”), and later health care organizations were encouraged to maximize their profits (Cao & Wang, 2005). Besides the state-owned hospitals, private sectors, such as large state enterprises, have been allowed to have some portion of hospital ownership (Hsiao, 1995). To financially dismantle the socialized public health system (Ma et al., 2008), the central government reduced the amount of its fiscal contribution to health care expenditures (Zheng et al., 2006). Since the mid-1990s, government-owned hospitals have only received approximately 25% of their revenues from the government (Hsiao, 1995). Reduction in governmental support made hospitals rely more on income from the provision of services and the sale of medicines to cover their expenses (Blumenthal & Hsiao, 2005). That is to say, even though hospitals were still considered public institutions that served public interest,

they were expected to run on a commercial basis because the government no longer offered adequate fiscal support.

Two things remained unchanged during the reform: most hospitals were considered public and were owned by the government, and the Central Pricing Commission continued to control the price of medical services (Blumenthal & Hsiao, 2005; Hsiao, 1999). The government controlled fee schedules, and many services were priced below cost. Health care providers were paid on a fee-for-service basis (Hu et al., 2008). The control of pricing was considered a socialist approach to promoting social equality (Hsiao, 1999), but this resulted in the fact that physicians' contributions were underrated and they had little chance to increase their income through legitimate channels (Huang, 2009). To compensate for the loss of income, drug mark-ups were introduced, which in turn increased patients' total medical cost (Yip et al., 2012).

In addition to drug mark-ups that contributed to the soaring medical expenditure, the archaic and complex governance structure prohibited public hospitals from providing efficient and high quality service (Yip et al., 2012). Even though the private sectors were allowed to join the health care market, public hospitals continued to play a dominant role (Blumenthal & Hsiao, 2005). By 2012, public hospitals delivered more than 90% of the inpatient and outpatient services in the country (Yip et al., 2012).

In terms of health insurance, urban workers were covered by a basic medical insurance scheme, other urban residents were covered by an urban-resident scheme, the rural population was covered by a rural cooperative medical system, and a medical assistance program, solely fund by the government, was designed to help other poor and uninsured population clusters (Hu et al., 2008).

Systemic problems. The state-owned but financially independent health care system has generated many problems. The new system has frustrated both patients and health care professionals, causing scholars with a pessimistic view, such as Huang (2009), to argue that the health care reform began in the 1980s has proven to be a failure. The typical problems that resulted from the health care reform included the unequal health status of citizens, inefficiency, low quality, the lack of a well-organized approach to health care financing (Hsiao, 1995), and a distorted market of medicine and health care services (Cao & Wang, 2005).

The current medicine and health care service market was incomplete and distorted. Treated as an ordinary commodity, health care services were expected to be circulated and exchanged freely in the market economy. The prices of health care services in a normal and healthy medical care market should be adjusted by market forces (Cao & Wang, 2005). In China, even though hospitals had been encouraged to make profits, the government largely controlled the pricing of drugs and health care services, and the market had little influence on the process. However, there was a loophole in the policy: the government had a list of drugs that were considered for “common use”, and it only set prices for “common use” drugs. Pharmaceutical companies and hospitals could set whatever prices they liked for drugs outside of the “common use” list, especially newly introduced drugs (Qian & Blomqvist, 2014).

Because pharmaceutical companies found that they could make little profit on “common use” drugs, whose prices were underrated by the government, they constantly upgraded these less costly “common use” drugs to newly introduced drugs in order to set a desirable price. Hospitals also participated in the mark-ups on drugs to compensate for the loss of fiscal support from the government, and doctors had strong incentives to prescribe new, expensive medicines because a part of their income came from the mark-ups on drugs (Qian & Blomqvist, 2014). As a

result, fewer and fewer “common use” drugs were produced, and new, marked-up drugs were commonly used in hospitals and clinics. The government’s unnecessary involvement with the pricing of drugs and health care services was not only ineffective in controlling the cost of drugs, it made the situation even worse (Cao & Wang, 2005; Qian & Blomqvist, 2014; Yip et al., 2012). In recent years, the cost of drugs accounted for more than 40% of the health care expenditure (Qian & Blomqvist, 2014).

Medical costs have increased steadily since the reforms were started. High medical costs mainly result from the predominantly fee-for-service payment system and mark-ups on drugs (Yip et al., 2012). Meanwhile, the proportion of governmental and social spending has been declining. Governmental spending decreased from 32% to 25% between 1978 and 1999, and then from 25% to 14.9% between 1990 and 2000 (Cao & Wang, 2005), while individual spending has significantly increased (Zheng et al., 2006). In other words, ordinary patients bore most of the increased cost. For example, by the end of 2008, out-of-pocket payments for an ordinary household were 18 times what they were in 1990, resulting in the fact that more than 35% of urban households and 43% of rural household could not afford health care services (Hu, 2008). To make matters worse, health insurance benefits were not able to adequately compensate middle to low income populations (Lu, 2003).

A large population has not been covered by health insurance. Only 55% of urban and 21% of rural residents have health insurance (Liu, 2009). Even though governmental insurance schemes have expanded since 2000, the scale of coverage, the service packages, and the overall protection has remained insufficient (Hu, 2008). The average annual per capita income could only afford a single hospital admission (Liu, 2009). According to the 2014 China Statistical Yearbook, while the average annual per capita income in 2013 was 51,483 *yuan* (\$7830), the

average annual per capita medical cost was 3,237.37 *yuan* (\$492). The government paid 30.14% of the total cost, commercial health insurance and donations covered 35.98% of the cost, and individual patients were responsible for 33.88% of the total spending. In addition, the current health insurance system combines personal accounts and “social accounts”, so both individuals and their employers need to pay the premium. Even though mandatory employer insurance has been encouraged, private sector owners often refuse to pay the premium to lower their labor costs (Blumenthal & Hsiao, 2005). As a result, migrant workers working for private sector companies have become the population that received the least coverage (Lu, 2003).

Besides the low health insurance coverage, medical resources are allocated unevenly across the nation: more than 80% of the medical resources are located in big cities, while 20% are placed in tertiary hospitals (Zhang et al., 2014). Advanced medical institutions are primarily located in China’s leading urban centers, such as Beijing and Shanghai (Lucas, 1982). Village health stations receive almost no funding from the government (Hu et al., 2008). In the past, the government tried to address the shortage of medical resources in rural areas during the Cultural Revolution (1966-1976) by mobilizing rural manpower and encouraging volunteer rural health workers, but most of the policies were abandoned in the early 1980s because the Cultural Revolution was considered an “erroneous” period (Lucas, 1982).

In the 21st century, disparities between regions have increased: urban and economically dynamic areas get much larger budget shares than poor and remote areas (Hu, 2008). The 2014 China Statistical Yearbook showed the uneven distribution of medical resources between regions: in terms of the number of health care professionals per thousand residents, the average number nationwide was 5.27, while the number for rural areas was 3.64 and the number for urban areas was 9.18. The gap was even larger between individual cities and provinces. There were 15.46

health care professionals per thousand residents in Beijing, followed by Shanghai with a number of 10.97, but the average number of health care professionals per thousand residents in remote provinces in southwest China such as Sichuan and Guizhou was only 4.68 and 3.64 respectively.

The health care system also frustrated health care service providers. The poorly designed payment and promotion system offers health care professionals opportunities to increase their personal income through unethical channels, but it also places them in crises. Physicians receive over 90% of their income from medical service fees and medicines, which results in the overuse of high-tech services (Hu, 2008). Their promotions and bonus payments rely heavily on the amount of profits they make as well (Yip et al., 2010). An erosion of medical ethics and norms has been observed: being underfunded and given inappropriate incentives, physicians overprescribe unnecessary medicines and high-tech tests to make more profits (Yip et al., 2010). In 2005, the Health Minister of China, Gao, publically blamed health care providers for selling medicines and ordering unnecessary tests to make a profit. He considered these activities as corruption (Zheng et al., 2006). Even though the government tried to use administrative orders to control physicians' overuse of expensive drugs, scholars found the measures not effective in the long term (Yip et al., 2012).

Facing public discontent about soaring medical expenses and the uneven distribution of health resources across regions, the central government issued its Health Reform Plan in 2008, after two years of commissioned research, to address the concerns mentioned above (Liu, 2009). The Minister of Public Health, Chen Zhu, announced that the government would double its expenditure in health in 2009 (Chen, 2009). Chen's report disclosed the five fundamental aims of the new plan: expanding medical insurance coverage to more than 90% of the citizens by 2020, developing a national essential drug system to meet basic treatment and prevention needs,

improving public health services at the grassroots level, promoting basic public health services, and launching another pilot reform of public hospitals. The last aim included a correction of the tendency toward commercialization, which had been encouraged by the government in the past few decades (Zhu Chen, 2009; Yip et al., 2012). In addition, the new plan claimed to use various means to suppress hospitals' and health care service providers' profit-making activities. It also attempted to reinforce the "zero-profit drug policy" to eliminate the mark-ups on drugs (Yip et al., 2012). At the same time, the government redesigned the fees that health care providers could charge per visit (Yip et al., 2012). Moreover, entry of private hospitals was encouraged for the purposes of creating competition (Yip et al., 2012). While recognizing the governments' resolution to improve the health care system, scholars and observers criticized the new plan for not having concrete approaches that could be put into practice immediately.

Doctor-patient relationships. The deterioration of doctor-patient relationships has been widely recognized since the late 1990s (Cao & Wang, 2005). Workplace violence against health care professionals, including the formation of Yi Nao gangs, has become one of the most prominent concerns within the public health system. Yi Nao (*yi* means medical and *nao* means harassment) gangs harass and disturb ordinary medical practitioners to extort compensation from hospitals (Hesketh et al., 2012). Typical practices of Yi Nao gangs include sitting in the lounge of hospitals and crying aloud, displaying banners that call for "a life for a life", damaging office and medical supplies, insulting and attacking individual health care professionals, and so on (Cai et al., 2010). A survey conducted among 270 tertiary hospitals suggested that 73% of them had experienced violent incidents organized by Yi Nao gangs (Hesketh et al., 2012). On the surface, Yi Nao gangs' activities reflected a deteriorating doctor-patient relationship, but fundamentally,

the occurrence of these issues can be traced back to the poorly designed health care system (Hesketh et al., 2012).

Workplace violence against health care professionals is both psychological and physical, including insults, threats, and verbal abuse as well as hitting, kicking, shooting, pushing, and so on (Cai et al., 2010). The number of violent workplace incidents against health care providers significantly increased after 2000. For example, in Guangzhou, 65% of the hospital staff had encountered some sort of workplace violence, mainly psychological. Between 2001 and 2002, 54.2% of these incidents were initiated by patients' relatives (Zheng et al., 2006). At the state level, from 2000 to 2011, a total of 124 cases of severe violence were recorded, including 29 murders and 52 physical attacks that resulted in serious injuries (Hesketh et al., 2012).

A study in southern China identified several reasons for violence against health care providers: insufficient communication, inadequate medical service, unsatisfactory treatment outcomes, heavy workloads, and patient frustration due to high medical expense (Cai et al., 2010). Since the late 1900s, the number of medical disputes has increased at the rate of 30% per year, even though the number of malpractice cases did not increase accordingly (Zhang et al., 2014). The increasing rates of violence suggest that medical disputes and Yi Nao gangs' activities had little to do with the dereliction of duty among health care professionals. However, public perceptions of health care professionals' skills and ethics have deteriorated. According to a recent nationwide survey, 29.96% of the patients thought that, overall, health care providers were not well-trained in the treatment of diseases, 45.97% of them believed that physicians lacked a sense of obligation, and 16.47% of them complained that physicians were unfriendly to patients (Zhang et al., 2014).

Scholars have proposed different theses to explain why the public was so dissatisfied with their medical experiences and what caused the rise of Yi Nao activities. Policy analysis by Cao and Wang (2005) suggested that treating hospitals as public institutions while viewing them as commercial entities was the fundamental cause of the problem. Even though hospitals were encouraged to become profit-oriented, the government refused to announce the change to the public. Instead, it insisted that public hospitals were expected to serve the public interest first. The inconsistency between public statements and real policies destroyed the trust between doctors and patients (Cao & Wang, 2005).

One of the prominent reasons that made the public distrust doctors was the lack of professional associations or reliable laws to enforce medical ethics. The Chinese Medical Doctor Association (CMDA) is a national voluntary non-profit organization comprised of licensed doctors in China. The CMDA claimed to contribute to the development of the discipline, promote medical ethics, and protect the rights of doctors. However, like other specialized elite networks that had been institutionalized since the Communist Party took power (Lucas, 1982), the CMDA was led and supervised by the Ministry of Health (“CMDA Charter”, n.d.). Being closely tied to the government prohibited the CMDA from performing professional and independent activities, such as enforcing medical ethics and investigating medical disputes (Cao & Wang, 2005).

In addition, scholars found laws to be too vague to address various medical disputes. Regulations Governing Medical Malpractices vaguely described different types of medical malpractice and the procedures for addressing the malpractice. Legal expert Chen Zhihua (2002) argued that the Regulations had four major deficits. First, it failed to define the concept of malpractice clearly, which left a lot of room for people to argue about whether a particular

incident was malpractice. Second, the list of defenses did not include all the possible situations physicians and patients might encounter, leaving a considerable number of situations unaddressed. Third, the Regulations did not clearly state how the plaintiffs and defendants should handle medical records when they were involved in a malpractice lawsuit. Finally, the procedure for investigating malpractice had a lot of loopholes, casting doubt on the credibility of the results of investigations. These deficits prohibited the Regulations from handling medical disputes in different disciplines in a convincing way, and the unsound law inherently lured patients and their family members to seek illegal approaches when they attempted to protect their rights, such as seeking help from Yi Nao gangs (Cao & Wang, 2005).

Large-scale social anger, especially the formation of Yi Nao gangs, reflects the public's dissatisfaction with the current health care system's high costs, low efficiency, and imbalanced resource allocation (Blumenthal & Hsiao, 2005; Zheng et al., 2006). Health care professionals were not satisfied either. According to a recent survey, more than 75% of Chinese physicians believed that their rights were not protected, and more than 80% of them indicated that their current work environment was "bad" or "very bad" (Zhang et al., 2014). The mass media also played a negative role. While treating patients as the vulnerable group by default, the mass media were much more interested in reporting medical disputes than positive stories about health care providers, which resulted in the public's loss of confidence in the medical discipline (Zhang et al., 2014). As a result, a large number of health care professionals quit their jobs due to their disappointment with the public health system, and a shortage of human resources has occurred during the first ten years of the 21st century (Yip et al., 2012).

In 2010, *The Lancet* published a series of editorials discussing the violence against doctors in China. The editorials identified several factors contributing to the deterioration of the

public perception of Chinese doctors: disproportionate media coverage on physicians cheating patients, a shortage of governmental investment, the modest incomes of doctors, and weak penalization against Yi Nao gangs (*The Lancet*, 2010). Four years later, another editorial entitled *Violence against Doctors: Why China? Why Now? What Next?* restated the difficult situations doctors in China were facing, and urged the government to expand the health coverage and fairly distribute medical resources to rekindle the trust between doctors and patients (*The Lancet*, 2014). These editorials received a large number of responses from Chinese doctors, most of whom agreed with the editorials and expressed a strong desire for changes initiated by the government. However, a small number of essays published in a top, highly professional British medical journal did not appear to have a substantial impact on public misunderstanding of the profession and the social group.

Cultural context: conventional medicine vs. Traditional Chinese Medicine

Traditional Chinese Medicine (TCM) originated in ancient China during the epoch of Spring-and-Autumn, about 800 B.C. (Lee, 1980; Li et al., 2008). TCM has evolved over thousands of years and it is still highly influential in Asian countries, especially in China (Liu & Cao, 2012). The rise and fall of TCM in modern Chinese history suggests that the public rarely perceived TCM as a mere alternative medical practice; rather, due to the profound cultural components and implications of TCM, people viewed it as a complicated cultural product. The debates over TCM have not ended, and these ongoing debates have reshaped the public discourse about medicine and culture in the contemporary era.

TCM is based on an internally coherent theory that is radically different from conventional medicine in terms of the logical structure underlying the methodology and physicians' clinical insight (Gu, 1999; Kaptchuk, 2000). Two major metaphors form the

foundation of TCM theories (Stibbe, 1996). The first metaphor views the body as an energetic system, in which vital energy (*qi*) flows to animate all parts of the body. Illnesses occur when the energy is blocked, so the purpose of treatment is to remove the blockage and to encourage the free flow of energy. The second metaphor views the body as a weather system. Elements are divided into two categories derived from Taoism—*yin* (meaning the moon, dark, negative, and feminine) and *yang* (meaning the sun, bright, positive, and masculine). TCM theories consider a healthy body as a harmonious landscape in which the elements of *yin* and *yang* peacefully coexist (Kaptchuk, 2000). Illness results from the imbalance of *yin* and *yang*, so treatment is a process of restoring the balance (Stibbe, 1996). Accordingly, all TCM medical consultations and treatments, including herbs, acupuncture, and massage, are designed to seek a dynamic balance between *yin* and *yang* in the body (Hsu, 1999; Liu & Cao, 2012; Sivin, 1987). Based on balance-seeking theories, TCM diagnoses do not attempt to specify the cause of the illness, but rather they render a general description that includes both symptoms and other characteristics of the body (Kaptchuk, 2000). In addition to its unique theoretical foundation, TCM primarily relies on pulse diagnostics to diagnose illness (Hsu, 2001).

In history, there was no standard textbook for TCM; instead, TCM knowledge was transmitted in two ways: the personal transmission of knowledge and the transmission of secret knowledge (Hsu, 1999). According Hsu, in the former pathway, knowledge transmission was dependent upon the mutual trust between the mentor and the student, and in the later pathway, knowledge was transmitted within families. In other words, traditionally, there was no standardized mode of knowledge transmission between TCM practitioners.

Important TCM literature included *Yellow Emperor's Inner Canon (Huangdi Neijing)* by Wang Bing, composed around the mid-8th century; *Essential Prescriptions Worth A Thousand*

Gold Pieces (Qianjin Yaofang) and *Supplementary Prescriptions Worth A Thousand Gold Pieces (Qianjin Yifang)* by Sun Simiao (Cullen, 2005); and *Compendium of Materia Medica (Bencao Gangmu)* by Li Shizhen, written in the Ming Dynasty (Hoizey & Hoizey, 1993). Case statements (*yi'an*), which described diseases and treatments on a case-by-case basis, were another important genre of TCM literature (Hsu, 2001). This literature introduced TCM thoughts and a wide range of therapies, some of the which are still used today (Cullen, 2005).

Although the theory and practice of TCM is relatively stable, secular, and internally consistent, TCM is still often viewed as something to believe in, like a religion (Andrew, 2013). Even though TCM has effectively cured some types of diseases, many modern medicine practitioners thought either the cure was due to the placebo effect or an accident (Kaptchuk, 2000).

Starting in the late 1800s, China faced military threats from foreign nations, and people started to seek solutions to “catch-up” (Taylor, 2005). Intellectuals and politicians set out to transform China into a “modern” country, and they considered modern science and technology to be crucial to the transformation (Scheid, 2002). Missionaries from the West first introduced modern medicine to China during the Qing Dynasty in the 19th century, and reformists in the Qing court, such as Li Hongzhang, viewed the introduction of modern medicine as a necessary part of acquiring the West’s superior knowledge and techniques (Lucas, 1982). With the support of Li Hongzhang, the American Medical Preaching Association set up the first modern medical school in China in 1866, the Bo Ji Medical School (Wang et al., 1999). Missionaries also established the China Medical Missionary Association to promote modern medical knowledge and practices, and to establish standards for medical education in the country. However, because all the members of the Association were foreigners, conservative authorities in the Qing court

were worried that programs introducing knowledge from the West neglected the importance of Chinese knowledge and that the formation of modern medical associations was a new form of colonization (Lucas, 1982). Nonetheless, Li Hongzhang accepted a proposal by the U.S. Consulate in Tianjin and the London Missionary Society, and he agreed to send Chinese students to medical schools in the West to study modern medicine further (Lucas, 1982).

The debate over the effectiveness of TCM became a more prominent issue in the early 20th century when Chinese doctors who had undergone training in the West established national medical associations to represent the interest of modern medical practitioners. By 1935, China had 5390 physicians trained in modern medicine practicing (Lucas, 1982). By contemporary scientific rules, the safety, efficacy, and effectiveness of specific alternative medicine interventions are not proven unless properly designed randomized controlled trials are conducted (Fontanarosa & Lundberg, 1998). However, in TCM, the effectiveness of medicine and formulas is mainly determined by experience, and few people could explain the medical mechanisms using modern scientific approaches (Kaptchuk, 2000). Therefore, the safety and effectiveness of TCM is questioned because many of its practices are not scientifically supported. Radical modernists, including doctors, berated TCM as superstitious, unscientific, unhygienic, and a symbol of ignorance (Andrew, 2013).

Viewing TCM as a symbol of the old society and an unscientific way of social living, radical reformists tried various methods of abolishing the use of TCM across the nation during the first half of the 20th century. TCM was often labeled as “old medicine” and “metaphysics” (Wang et al., 1999). Reformists conducted large-scale but unsuccessful campaigns during various social and political movements, especially the Self-Strengthening Movement (1860-1895), the New Cultural Movement (1915-1928), and the May 4th Movement (1919) (Andrew,

2013; Scheid, 2002). All these movements encouraged Chinese citizens to abandon old traditions in order to transform China into a modern country, like those in Europe and North America, and abolishing TCM was a necessary aspect. Their efforts were supported by the Nationalist government during the first half of the 20th century, who adopted the Western medical system (Lucas, 1982). However, their attempts to abolish TCM were boycotted by both the traditional pharmaceutical industry and the public (Taylor, 2005).

The most influential incident occurred in 1929. Modernist Yu Yunxiu had his own plans for a “medical revolution” to outlaw TCM and to promote conventional medicine. He viewed TCM as a national embarrassment and public menace. When he was appointed to the Ministry of Health, he set about enforcing his convictions: “The Abolition of Old-Style Medicine in Order to Clear Away the Obstacles to Medicine and Public Health” (*Feizhi jiuyi yi saochu yishi weisheng zhangai an*). However, the ruling initiated by Yu was soon overturned because it was met with outrage from the public and prompted national demonstrations (Scheid, 2002; Taylor, 2005).

A considerable number of modernists thought that both modern medicine and TCM should be kept to address medical concerns more efficiently. When radical modernists were lobbying for the abolishment of TCM, integrationists, such as Tang Zonghai, Zhu Peiwen, Zhang Xichun, and Yun Tieqiao, tried to integrate modern medicine and TCM into a new, perfected medical science. However, their efforts failed due to the fact that modern medicine and TCM were incompatible in nature. Even though they did not manage to create a perfect medical science as expected, integrationists did intensive research on TCM during the first half of the 20th century (Wang et al., 1999).

TCM was officially recognized by the Chinese government when the Chinese Communist Party gained power and began to establish control over the country in 1949 (“Outline

of Strategic Development”, 2016; Taylor, 2005;). Viewing TCM as a proof of China’s cultural superiority (Taylor, 2005) and catering to the rising awareness of nationalism, the Communist government labeled TCM as a cultural heritage unique to Chinese citizens, which was worthy of preserving and developing (Scheid, 2002). Together with other types of traditional Chinese arts and practices such as the Peking Opera, TCM obtained a lot of support from the government: TCM schools were built in major cities, including Beijing, Shanghai, Guangzhou, and Chengdu (Hoizey & Hoizey, 1993; Lucas, 1982), TCM classics were republished as textbooks, and conventional medical practitioners were also encouraged to learn some TCM knowledge (Scheid, 2002). To further advance TCM research, the government established new central research institutes, including the Academy of Traditional Chinese Medicine (Lucas, 1982), and launched the Chinese Medical Journal (Taylor, 2005). With these approaches, government institutes took over the role of families and individualized mentor-student relationships, setting up a standardized mode of TCM knowledge transmission (Hsu, 1999).

Between the 1950s and mid-1960s, the government tried to combine TCM and modern medicine (Hoizey & Hoizey, 1993). Scientists were encouraged to use scientific methodologies to study the effectiveness of TCM formulas, and the extraction of artemisinin from *Artemisia* to treat Malaria was one of their prominent achievements (Hoizey & Hoizey, 1993): Tu Youyou, the principle investigator on the project, won the Nobel Prize in Physiology or Medicine in 2015 for her “discoveries concerning a novel therapy against Malaria” (“Youyou Tu - facts”, 2016). TCM researchers also did intensive textual research on classic TCM literature and developed a few new formulas (Wang et al., 1999).

In the contemporary era, the use of TCM is supported by the central government. According to the Outline of Strategic Development of TCM (2016-2030) issued by the State

Council, the government views TCM as a unique medical resource, an economic resource with huge potential, an innovative technological resource, an outstanding cultural resource, and an important ecological resource. Therefore, from 2016 to 2030, the government would like to extend the coverage of TCM services in both urban and rural areas, advance the effectiveness of TCM in preventing and curing diseases, promote the collaboration of TCM and conventional medicine, enhance TCM knowledge transmission, upgrade the TCM industry, improve the standards of TCM drugs, cultivate more TCM specialists, and so on (“Outline of Strategic Development”, 2016). These plans suggested that the Chinese government has developed a comprehensive framework to support the development of TCM, including both the advancement of TCM knowledge and the systematic support of TCM usage.

One of the major mandates of the Ministry of Health is to manage the State Administration of Traditional Chinese Medicine (“Ministry of Health”, 2009). In October 2003, the State Council issued the Regulations on the People’s Republic of China on Traditional Chinese Medicine to develop the science of TCM and to promote the development of TCM undertaking (“Regulations of the PRC”, 2014). The PRC State Council also approved the launch of the World Federation of Chinese Medicine Societies (WFCMS), which was led by the former vice Minister of Public Health (“A brief introduction of WFCMS”, n.d.). In November 2008, Beijing held the WHO Congress on Traditional Medicine. One of the outcomes of the Congress was the Beijing Declaration proposed by the Ministry of Health. The Declaration encouraged the dissemination of traditional medicine knowledge, governmental support of effective use of traditional medicine, further research and innovation of traditional medicine, and communication between conventional and traditional medicine providers (“Beijing declaration”, n.d.). Officials from the Ministry of Health also mentioned on various occasions that TCM was a highly

valuable component of China's cultural heritage that should be promoted to the whole world (e.g., "Vice Minister of Health Wang Guoqiang", 2012). In February 2016, the State Council issued the Outline of Strategic Development of TCM (2016-2030) to encourage further research and development of TCM ("Outline of Strategic Development", 2016). In addition, the Medical Licensing Examination included TCM as one of the four major categories (the remaining categories were clinical medicine, dentistry, and public health) so that TCM students could be legally licensed in China like those who study conventional medicine ("A Brief Introduction of Medical Licensing Examination", 2014). These events and regulations reflected contemporary Chinese government's positive attitudes toward TCM.

Receiving tremendous support from the government, TCM departments are present in a considerable proportion of modern hospitals. Although TCM education today is independent of conventional medical education, TCM and conventional medicine are interconnected within the health care system (Scheid, 2002). Ninety percent of the public hospitals in China have TCM departments, and patients are free to choose whether to visit the conventional or TCM department for approximately the same copay (Xu & Yang, 2009).

In addition, TCM has been occasionally mentioned as an effective approach to preventing certain kinds of diseases during public health crises. For example, during the SARS epidemic in 2003, state-owned newspapers, such as *The Peoples' Daily*, encouraged citizens to use a particular TCM formula ("*banlangen*") to guard themselves from SARS, and TCM practitioners were encouraged to join their biomedical colleagues to develop Chinese-biomedical treatments against the disease (Hanson, 2008). Because TCM practitioners were usually locally available and charged less than doctors in modern hospitals, the government also promoted the use of TCM as preventive medicine (Ma et al., 2008).

The government's promotion of TCM has resulted in increased public trust in it. For example, Scheid (2002) identified that four prevalent myths about TCM were popular among Beijing residents: 1) conventional medicine worked quickly, and TCM worked slowly; 2) conventional medicine treated symptoms, and TCM was able to treat the root of the disease; 3) conventional medicine had side effects, and TCM did not have side effects; 4) conventional medicine was effective for acute diseases, and TCM was better for chronic diseases. Although these myths were not consistent with TCM theories, they reflected a high level of trust of TCM among urban residents in China.

Modern Chinese history witnessed a debate between conventional medicine and TCM. The debate has been temporarily settled at the state level: the government views conventional medicine as the primary medical approach, and it also recognized the need of using TCM as a supplemental method (Scheid, 2002). However, the debate has not ended amongst the general public. Health care professionals, policy makers, celebrities, and scholars have initiated a new wave of debates over TCM, especially via social media. One of the most influential debates was initiated by Fang Zhouzi, a scientist who continually published articles that addressed the deficiencies of TCM and attacked the use of TCM (e.g., Fang, 2015). Even after Tu Youyou won the Nobel Prize for her discoveries inspired by TCM formulas, Fang (2015) argued that Tu's achievements did not indicate that TCM was effective in curing diseases. Additionally, in 2014, a Weibo celebrity physician harshly attacked TCM approaches and openly asked TCM practitioners to prove the effectiveness of TCM ("TCM practitioner from Chengdu", 2014). Ordinary social media users also joined the debates and presented their opinions. These events suggest that TCM remains a public controversy in Chinese society, and it is worth exploring the extent to which doctors were aware of this tension and the role of celebrity physicians in these

debates. With the diffusion of the Internet in China, social media became a new platform for conducting these debates. However, tremendous restrictions have been placed on the Chinese Internet. Internet censorship had a significant impact on the formation of social media discourse about issues of public concern, such as health, medicine, and culture.

Internet, censorship, and social media in China

The Chinese government promotes the use of the Internet because the technology has the potential to make huge profits and to create an economic boom, but it has always been worried about the potential side effects of Internet free speech, which could be a threat to the authority of the government (Yang, 2011). The dilemma resulted in a complex legal and technological system governing Internet use in China, and the censorship created tension between Internet users and the government. Media users found various means to circumvent state censorship, and they tried to expand the boundary of free speech through resistance and negotiation.

Policymakers in China viewed the Internet as a war zone, in which different cultural values and political beliefs came into conflict with each other (Rojas, 2010). While the government considered conventional media outlets as tools to promote the dominant thoughts of the state (Wu, 2008), policymakers were aware of the economic potential of digital media (Tan, 1999). To minimize the feared side effects of the free flow of information in cyberspace, the Chinese government tried to control the Internet at the infrastructure, service, and content levels (Zhou, 2006). Control of the Internet is an integral part of the censorship system that functions to ensure that the power of the government is not challenged (Zhou, 2006). Facing state censorship, Internet users seek to find spaces for free speech online through various means.

Regulations on the Internet reflect the dilemma in the post-totalitarian regime that policy makers were facing (Yang, 2011): the conflict between economic and technological development

(business opportunities) and the fear of the side effects of the free circulation of information (Zhou, 2006). On the one hand, the government needed the Internet because the economic development of China relied heavily on new media technology. On the other hand, they did not want net users to have too much access to the Western ideas that were in conflict with the contemporary party-state system (Zhang, 2005). Potential side effects included threats to social order, national security, and damage to reputation (Shao, 2012). Just as they used mass media as a political tool to achieve political goals (Tang & Iyengar, 2011), policymakers would like to exert their influence in cyberspace as well.

To address the dilemma and to minimize the feared side effects, policy makers developed a “two-hand strategy” to regulate Internet speech, through which information flow was encouraged but controlled. Using both legislative and technological approaches, the government tried to “dig a channel and should make sure that the water is clean” in cyberspace (Zhang, 2005). In this way, the policy makers ensured they could make the Internet profitable while not harming ideologies of nationalistic integrity. In other words, the government controlled the Internet by suppressing discussions on politically sensitive issues in the name of guiding users in the right direction in the cyberspace (Yang, 2011). These approaches echo Morozov’s argument that the government is situated in a better position to monitor cyberspace as it exerts control over conventional media (2011).

Official files did not openly state the government’s concern over the side effects of Internet free speech. However, these documents indirectly reflected the “two-hand strategy”. One of the programmatic documents that guided the legislation of Internet use, the National People’s Congress Standing Committee’s Decision on Safeguarding Internet Security, claimed that the purpose of Internet regulations was to “promote what is beneficial and abolish what is harmful”

(*xing li chu bi*) (“National People’s Congress Standing Committee’s Decision”, 2000). More recently, the 12th Five-Year Plan of Economic and Social Development considered building information technology infrastructure and enhancing network security as two important approaches to the development of an information society (“The 12th Five-Year Plan”, 2011). Together with the promotion of digital technology, Internet security was a prominent theme in these important documents, and Internet security was usually described as control over Internet content.

At the legislative level, the Internet in China is under the control of a large number of laws and regulations. The State Council claimed that the purpose of making these laws and regulations was to “promote the healthy and orderly development of Internet information services” (“Internet Information Service”, 2000). The primary regulator of the Internet is the Ministry of Industry and Information Technology (MIIT). The Ministry of Public Security, the Information Office, the State Administration of Radio Film and Television, the General Administration of Press and Publication, and the State Intellectual Property Office are also involved in the regulation processes (Shao, 2012). The Network Security Bureau under MIIT is primarily responsible for developing and implementing laws and regulations that govern the construction of the telecommunication infrastructure; assessing and monitoring net safety; guiding and supervising telecommunication and Internet corporations; implementing net security regulations; controlling harmful information online and attacking criminal behaviors; monitoring information security; and so on (“The Network Security Bureau”, 2008).

In addition to the China Internet Network Information Center (CNNIC) that constructs, operates, and administers the infrastructure of Internet services in China (“Introduction”, n.d.), important legal and administrative licensing regulations include the Electronic Signature Law of

the People's Republic of China, the NPC Standing Committee's Decision on Safeguarding Internet Security, Provisional Administrative Regulations on the Computer Network Connecting with the Internet, the Administration of Internet Safety and Protection, Telecommunication Regulations, the Administration of Internet Information Services, the Administration of Electronic Bulletin Board Services, Provisional Administrative Regulations on News Service by Internet Websites, the Administration of Business Establishments Providing Internet Access Services ("China, Overview of", n.d.; Shao, 2012), Explanations on Criminal Cases Involving the Use of the Internet, Mobile Communication Terminals, the Voice Platform to Produce, Reproduce, Publish, Sale, and Disseminate Obscene Information, Provisional Regulations on Public Information Service Management (The Supreme People's Court of PRC, n.d.), and so on. In addition, dozens of administrative regulations and departmental rules have been issued to manage various aspects of content production and dissemination via the Internet. Typical regulations include the Bulletin on Intensifying Administration of Precursor Chemicals Sales Information on the Internet, the Notice on Further Strictly Clamping Down on the Illegal Drug Sales through Publicizing False Drug Information on the Internet, the Notice on Implementation of Newly Amended Interim Provisions on Culture Administration on the Internet, Plans for Further Executing the Authenticity Examination of Record-filing Information on Websites (Trial), Administrative Rules for Audio-visual Programs Transmitted over Internet, Some Opinions of the Ministry of Culture and the Ministry of Information Industry on the Development and Administration of Net Games, and so on ("China, Overview of", n.d.).

In terms of restrictions on Internet content, the following regulations listed the content that was prohibited from being published or disseminated: Regulations for the Administration of Audio-Visual Products, Regulations for the Administration of the Printing Industry, Regulations

on Publication Administration, and the Decision of the NPC Standing Committee on Safeguarding Internet Security (Shao, 2012). These regulations have a lot of overlapping content, so Shao (2012) summarized the major categories of forbidden content they covered. Due to the vagueness and excessive breadth of these terms, authorities had significant freedom in interpreting the laws (Shao, 2012).

1. Anything that goes against the basic principles determined by the Constitution;
2. Anything that endangers the unification, sovereignty, and territorial integrity of the country;
3. Anything that endangers state security, reputation and interest;
4. Anything that instigates national separatism, infringes on the customs and habits of minority nationalities and disrupts solidarity of nationalities;
5. Anything that discloses state secrets;
6. Anything that publicizes pornography and superstition or plays up violence, endangers social ethics and the fine traditions of national culture;
7. Anything that insults or slanders others. (Shao, 2012, p.53)

At the technical level, the Great Fire Wall and keyword blocking are two typical approaches to controlling the information flow (King et al., 2013). These approaches put prior restraint on online speech (Shao, 2012). The Great Fire Wall, officially named the Golden Shield (*Jin Dun*) Project, is a systematic censorship tool in which specific kinds of information can be blocked. In 2009, a new project named the Green Dam (*Lv Ba*) was proposed by China's Ministry of Industry and Information Technology, aiming at protecting teenagers from having access to sexual content online (Yang, 2011). However, the project failed due to the difficulties of implementing the software. Therefore, the Great Fire Wall now usually refers to the Golden Shield Project exclusively. The Great Fire Wall is a sophisticated project which involves various layers of technical control over search engines, blog posts, and online forums (Soplop, 2008).

The Great Fire Wall first directs Internet traffic away from sites outside China, making it much easier for the government to monitor information within the state intranet. Domestic Internet users are connected to a state intranet, and all IPs in China must connect to one of four

interconnecting networks (ChinaNet, ChinaGBN, CERNET and CSTNet) before they can access websites that are set outside of China. The Great Fire Wall blocks a number of websites, including Google and Facebook; users cannot access these foreign websites (Yang, 2011). The four networks act as gateways that physically control the access to international information flow (Tan, 1999).

Within the state intranet, the Great Fire Wall filters packets of data at different “checkpoints” to see whether they contain sensitive terms (Hogge, 2005). Catching terms that are considered unwelcome or sensitive according to the policy, the software package, also known as “Internet Police 110”, is installed in most households, schools and Internet cafes (Zha, 2007). Sensitive terms are deleted and displayed as star marks on users’ screens. Typical sensitive terms included the Tiananmen Square Protest, the Cultural Revolution, political scandals, names of top governmental officials, and so on (Yang, 2011).

Besides restrictions on the technical level, a group of “Internet policemen”, whose identities are mysterious to the public, read and delete posts or blogs that should not be posted online according to state regulations (Kalathil & Boas, 2003). MIIT also established the 12321 Center for Reporting and Receiving Harmful and Spam Information on the Internet, which encouraged ordinary users, telecommunication service providers, and local public safety agencies to dial 12321 to report “harmful” information (“Since the establishment of”, 2008). Censorship performed by the Great Fire Wall and individual Internet police ensured that web content, including news and public discussions, is guided and coordinated within the state intranet. Internet service providers are also responsible for what is published online, making everyone self-censor (Shao, 2012).

In addition to suppressive control, the government also used softer and subtler approaches to monitoring online speech. For example, Xinhua News Agency, People's Daily, and CCTV launched official websites, and other officially-sponsored groups, such as "Youth Communist Schools", online "psychological assistance", "red websites", and "the strengthening-China forum", were organized to indoctrinate youth with party ideology (Zhou, 2006).

Internet censorship created tension among the Chinese government, media companies, and Internet users (Yang, 2011). Transnational companies, such as Google, had to give up the market of Mainland China due to the incompatibility of the company's values with China's Internet policies (Eko et al., 2011; Zhao, 2008). Tension also exists between users' desire for free speech and the filtering system of the Great Fire Wall (Soplop, 2008).

Users have identified that the filtering system was not as effective as it claimed to be. For example, the Great Fire Wall is very politically sensitive; however, the system pays little attention to non-political issues. At the legislative level, regulations lagged behind the rapid development of technology. Regulations were vaguely written, sometimes conflicting, and interpreted in different ways, and they were not always implemented (Zhou, 2006). For example, although homosexuality was not culturally acceptable in China, more than 100 gay forums have been created, most of which have never been blocked by the Great Fire Wall (Hou, 2010). Besides that, researchers discovered that, although pornography was considered a target for censorship, sex-related terms were seldom restricted (Zha, 2007). The unusual tolerance of culturally-controversial issues suggested that the Great Fire Wall did not manage to regulate everything on the Internet.

To express opinions on topics banned by the Great Fire Wall, users have developed various strategies to challenge the existing filtering system (Yang, 2011). One of the easiest ways

to bypass the filtering system is to create alternative terms for politically sensitive issues (Yang, 2003). For example, while the term “Tiananmen Square Protest” is censored by the system, users use the number “64” (which stands for June 4th, when the Protest took place) or even the expression 8x8 when they need to refer to the historical issue. When a consensus has been reached among users, discussions of the Tiananmen Square Protest can circumvent the blacklist of the Great Fire Wall.

In addition, users are frequently utilizing anti-blocking software, “Mirror Sites”, “Anti-Censorship Proxies” (ACPs), secret UseNet groups, and anonymous e-mail services to circumvent the restrictions of the Great Fire Wall (Lacharite, 2002). The creation of anti-blocking software enables users to access blocked websites by using fake IP addresses. With the help of specific add-on software, “mirror sites” duplicate the blocked web pages and prevent these mirrored web pages from being monitored by the Great Fire Wall. ACPs allow users to evade the filters and obtain access to blocked sites. Besides that, anonymous emails are used between specific groups to communicate and distribute ideas secretly (Tan, 1999; Yang, 2003).

Like other online activities, celebrity physicians’ social media posts are situated within the Great Fire Wall. Have they ever tried to say something that was not in favor of the government? Have they ever encountered situations when their posts were deleted or their online conversations were interrupted? How did they handle the censorship tools? The answers to these questions will situate their social media use in the particular social context of China, and they will further exemplify the ways social media use resists censorship and promotes free speech.

CHAPTER 3

LITERATURE REVIEW

Scholarly works about the Uses and Gratifications (U&G) approach and its application to social media form the theoretical framework of this study. Within the U&G framework, the study examines the celebrity physician phenomenon from the following theoretical perspectives. First, previous research addressing the political ramifications of social media use examines the individual motivations driving media use behavior and the potential consequences of using social media politically. Second, health communication literature discusses the factors that shape the online behavior of health care professionals and health information seekers. Finally, literature addressing the star-selling industry provides an overview of the features of a typical celebrity-fan relationship.

The Uses and Gratifications approach

The Uses and Gratifications approach was proposed by Katz et al. in the 1970s. The U&G approach assumes that audiences are active when they consume media content and that media use is goal directed (Katz et al., 1973). In other words, media use is selective and motivated by individuals' own needs (Rubin, 2009), so particular types of media and content are consumed because individuals believe that they will satisfy their own needs (Ruggiero, 2000).

Rooted in the typical functionalist tradition that considered each part of society to be designed to fulfill certain kinds of needs, the U&G approach asks two central questions: why do people use media, and what do they use media for? (McQuail, 2010) To be more specific, the U&G approach attempts to explain how people use media to gratify their needs, to understand motives for media behavior, and to identify the functions or consequences of these needs, motives, and behavior (Rubin, 2009).

In their study examining why and how people used mass media, Katz et al. (1973) classified different types of needs into five groups: needs related to 1) strengthening information, knowledge, and understanding; 2) strengthening emotional experience; 3) strengthening confidence and status; 4) strengthening contact with other people; and 5) tension-release. The categories and typologies were further developed in the past few decades. In the contemporary scholarly discourse, motivations for media use are usually sorted into the following categories: 1) surveillance/information, using media to acquire information; 2) diversion, using media for emotional release; 3) personal identity, using media for personal reference and value reinforcement; and 4) personal relationship, using media for companionship and social utility (Rubin, 2009).

The gratifications sought do not always predict the gratifications obtained from media use. According to Katz et al. (1973), the selection of media and content are considerably influenced by social roles and psychological predispositions. In addition to media content, exposure to the media per se and the social context that typifies the situation of exposure to different media have an impact on audience gratifications (Blumler & Katz, 1975).

Early uses and gratifications research was often criticized for being descriptive rather than predictive and lacking theoretical depth (McQuail, 2010). To address these shortcomings, more contemporary studies have been linking the uses and gratifications framework to other communication and media use theories. Typical subareas include exploring the interaction between media use motives and media attitudes, comparing motives across different media types, assessing how media use affects perceptions of knowledge and relationships, etc (Rubin, 2009).

Within the theoretical framework set up by Katz et al. (1973), other mass communication theories have frequently been used to explain the psychological and social origins of media use.

For example, McGuire (1975) applied categories from psychology to discuss how different modes of cognitive and affective needs could result in different media use patterns. Rather than roughly categorizing different motivations and gratifications, McGuire's psychological perspective offered a thorough discussion of how the nuances of psychological drives led to distinct media use patterns. Similarly, LaRose et al. (2001) used social-cognitive theory to investigate the psychological factors impacting individuals' media use, especially Internet use. Using categories from social-cognitive theory, they found that positive outcome expectations, self-efficacy, and perceived media addiction were directly related to media usage. Their research connected social-cognitive theory and the U&G approach, and the categories developed in social-cognitive theory provided a more consistent theoretical framework for exploring the psychological origins of media use. So (2012) identified that motivations of surveillance and enjoyment had an impact on media users' personal risk perceptions. In terms of the social origins of media use, Donohew et al. (1987) revealed that certain social circumstances, roles, or life positions may impact the form of media use. In other words, normative expectations and access to media resource both mattered in determining media use.

Other researchers studied the media use motivations and gratifications of particular demographic groups. For example, using the survey results from women bloggers, Chen (2015) explored the primary motivations that drove women to social media. The study showed that information, engagement, and recreation predicted women bloggers' social media use habits.

In addition to studying how media use is impacted by individuals' social and psychological circumstances, other researchers analyzed the impact of media attributes on shaping media use. Early in 1975, Blumler and Katz found that media attributes played a crucial role in satisfying different needs. For example, they found that newspaper could serve a learning

gratification, but that radios could not. The idea was further developed when Van der Wurff (2011) introduced niche theory, which suggested that media that provide the same gratifications occupy overlapping niches; thus, media that cover broader niches are more competitive than smaller-niche media. Niche theory partially explained why some types of media became more popular while other forms gradually died out. The particular media format also generates unique outcomes in different social contexts. For example, mobile-based communication played an important role in connecting citizens to civil society and encouraging civic mobilization in countries where citizens were granted limited free speech in real space (Cheng et al., 2015).

To echo the diffusion of social media use, Sundar and Limperos (2013) proposed four new categories of media use gratifications based on media technology: 1) modality, including realism, coolness, novelty, and being there; 2) agency, including agency-enhancement, community building, bandwagon, filtering/tailoring, and ownership; 3) interactivity, including interaction, activity, responsiveness, and dynamic control; and 4) navigability, including browsing/variety-seeking, scaffolds/navigation aids, and play/fun. Some of these categories overlapped with the traditional uses and gratifications categories, but they could be interpreted in new ways. For example, “coolness” is a gratification that people seek from new interfaces released by Apple Inc. (Sundar & Limperos, 2013).

Uses and Gratifications in cyberspace

Cyberspace includes the Internet, telecommunications networks, computers, information or communication systems, and so on (Presidential Policy Directive, 2012). When applied to cyberspace, the U&G approach explores how individuals and groups interact with Internet technologies (Brandon & Hollingshead, 2007). The U&G approach has become crucial to Internet research because the Internet offers media users a wider range of choices and empowers

them with more control over the medium than traditional media (Ruggiero, 2000). With the rise of new media, Sundar and Limperors (2013) observed two trends in uses and gratifications: first, new gratifications emerged with new technology; second, broad gratifications got more nuanced and specific with new media.

Among the traditional categories describing motivations for and gratifications obtained from media use, the need for social interaction has received much scholarly attention. Weiser (2001) developed typologies describing the two types of needs satisfied by Internet use: social-affective regulation (social or interpersonal use) and goods-and-information acquisition (informational use). Like many early Internet researchers, Weiser had a pessimistic view of the non-informational use of the Internet. Assuming that there is no overlap between online and offline relationships, he argued that spending more time on the Internet may have a negative impact on psychological well-being because it compromises existing social and community ties in real space. This argument became less persuasive with the rise of social media. In their classic work, boyd and Ellison (2007) presented the opportunities social networking sites offered their users. Social networking sites: 1) allow users to create a public or semi-public profile representing themselves; 2) enable users to connect and communicate with people within their social network; and 3) make profiles and connections visible to other users. This preliminary definition suggests that facilitating interpersonal communication is one of the major features of social media.

A considerable number of recent studies examined how the Internet, especially social media, has facilitated the development and maintenance of social ties. Quan-Haase and Young (2010) identified six dimensions of Facebook use, three of which had a positive impact on enhancing social ties: sharing problems, sociability, and distributing social information. Results

suggested that Facebook use, as a typical mode of social-affective regulation (Weiser, 2001), did not have a negative impact on the individual's social network or psychological well-being. Instead, sharing creates a sense of membership in the peer community, and thus it has become a way of maintaining social ties. Malike et al. (2016) analyzed the gratifications associated with one particular behavior on Facebook: photo sharing. Their study revealed that photo sharing primarily satisfied six different gratifications, including affection, attention seeking, disclosure, habit, information sharing, and social influence. Similarly, Chen (2011) analyzed how individuals used Twitter to satisfy their need for connection, including obtaining membership in a group, reciprocal influence among members, cooperative behavior, and emotional support. The study found that even though Twitter did not offer exactly the same feeling as an offline community, it provided users with an alternative setting (e.g., tweeting and re-tweeting) that enhanced users' feelings of belongingness. Holton et al. (2014) argued that hyperlinks enabled Twitter to serve as a platform for information sharing and community building. Besides that, a study examining user-generated media, such as YouTube, revealed that social interaction and community development occurred when people rated media content, shared with others, and posted comments (Shao, 2009). Especially in times of distress and crisis, social media use could contribute significantly to an enhanced sense of community (Lev-On, 2012). These findings suggest that rather than destroying offline relationships, the Internet facilitates virtual social interactions and contributes to the formation of new social ties.

In addition to social interaction, researchers have identified self-expression to be another important online gratification. Expression of one's own identity can be satisfied regardless of the feature of different websites. On the one hand, websites that allow anonymity inadvertently encourage users to express socially unsanctioned identities that normally require concealment

(Weiser, 2001). On the other hand, blogging, video casting, and other self-presentation activities enable users to control the impressions others have of them by constructing a certain image of self and claiming an identity for themselves (Shao, 2009). According to Shao, self-presentation activities cover a wide range of behaviors other than just producing concrete media messages, including rating pre-existing content, saving posts to their favorites, sharing videos with others, etc. Therefore, the need for self-expression is fulfilled even if the user does not literally create any new media messages.

In brief, in addition to providing information and entertainment like traditional mass media, the Internet offers two unique gratifications: social interaction and self-expression. The fulfillment of these needs could have significant implications. At the individual level, the process as well as the consequences of Internet use, especially generating new content, results in the psychological empowerment of Internet users (Leung, 2009). That is, users feel more confident in managing different skills needed to master the social system in which they are situated. At the societal level, civic engagement is encouraged when individuals are psychologically empowered (Leung, 2009). Using the theoretical framework of uses and gratifications, this project tried to answer the following research questions.

RQ1. What are celebrity physicians' motivations for establishing their professional presence via social media?

RQ2. How do celebrity physicians use social media to establish their professional presence?

RQ3. What gratifications do celebrity physicians obtain from establishing a professional presence via social media?

Social media use and its political ramifications

The Internet radically differs from traditional mass media in its interactivity, networking potential, and capability for both mass and personalized communication (Zheng, 2008). Due to its unique technological nature, there have been ongoing discussions about the impact of the Internet on the development of civil societies. The scholarly discourse is dominated by two distinct arguments: the idea of cyber-utopianism, which emphasized the liberating potential of information technology, and the opposite view, which treated technology as nothing more than a tool (Diamond, 2012).

The idea of cyber-utopianism, also known as liberation technology, suggests that information technologies are intrinsically liberating and that they are inherently good for promoting freedom and democracy (Diamond, 2012). In terms of the content created by users, online discourse has the potential to increase political participation and contribute to the formation of the public sphere (Papacharissi, 2004). In social contexts where information flow is restricted, the Internet makes it more difficult to perform censorship: the Internet is a many-to-many communication platform that has a very low barrier to entry; therefore, traditional methods of content control are hard to conduct (Qiang, 2012). Similarly, the Internet's nonhierarchical structure makes it possible for individuals to bypass traditional barriers and to disseminate information to a larger population (Tai, 2006). In particular, goal-oriented Internet activities could promote off-line civic engagement, and interpersonal conversations within the community were strong predictors for both online and offline participation (Ognyanova et al., 2013). Without formal organizational tools, collective actions could be performed by mobilizing people within online social networks (Bimber et al., 2009).

Other researchers argue that technology is merely a tool, which is open to both civic participation and governmental control (Diamond, 2012). Morozov (2011) argued that sophisticated modes of control have been exerted in cyberspace, most of which fall into the categories of censorship or surveillance. In addition to controlling the content of the Internet, governments can also take advantage of the decentralized information flow in order to misinform the public (Morozov, 2011). For example, Morozov (2011) observed that the “50-Cent Party” in China, a group of pro-government Internet critics who actively engage in online discussions, is a typical hybrid of the traditional propaganda model and new forms of persuasion. This type of public opinion manipulation suggested that the state is better positioned to manage decentralized cyberspace than the public.

Despite the dominant viewpoints, Zheng (2008) proposed a third view: the Internet is mutually empowering to the state and the public, and it appears to be an arena in which both the state and society try to expand their own political reach (Zheng, 2008). Unlike most researchers who viewed the state and the public as two dichotomized but monolithic social actors, Zheng (2008) argued that the Internet is a part of state-society relations, and the role of the Internet is to mediate the relationship between the state and society. According to Zheng, both the state and the public are disaggregated due to different social forces, conflicts of interest, and power struggles. The Internet in China is not only used for protest or dissent, but itself has become an arena, or an object of struggle (Yang, 2003). For example, the early 2000s witnessed power negotiation between intellectuals and the state. Intellectuals launched liberal-oriented magazines online because the state did not require online journals to receive publication permits. Realizing that numerous liberal-oriented articles were published online, the state later refined its policies

and exerted pressure on website editors to better control the domain (Zhou, 2006). Zhou (2006) predicted that the Internet can serve democratic goals without making political changes.

Several scholars have observed the preliminary impact of the Internet on civil society development in China. One of the major opportunities brought about by the Internet is access to more diverse messages. Being informed is the first step of civic participation because people have to learn what is happening around them. While there is not much alternative political information available to individuals in conventional media, the Internet has emerged as a more credible information source (Stockmann, 2013). This trend is particularly prominent in social network service use on mobile devices: social networking on mobile devices provided university students in China with technological convenience, information exchange, and social interaction, and all these gratifications encouraged civic engagement (Cheng et al., 2015).

This idea was supported by Stockmann's observations about the 2005 anti-Japanese demonstrations, when highly-committed residents in Beijing moved to the Internet for credible information. Even though more recent research suggests that information spread via the Internet can be misleading or completely false, it has nevertheless become a non-governmental. During political activities, such as the anti-Japanese demonstrations, media consumers perceived the Internet to be a more credible source for politics-related information partially due to the comparatively lighter control over the technology (Stockmann, 2013).

Because the Internet provides information that is not available via conventional media, and because that information is perceived to be credible, online social media play an even more important role in setting the public agenda (Hughes & Wacker, 2003). For example, in 2007, residents in Xiamen protested and complained about the construction of a hazardous project, "PX", in the city. Conventional media practitioners learned about the controversy, and later more

news stories were published and public debates were conducted (Qiang, 2010). Many researchers, like Qiang, believed that the protest against “PX” marked the rise of a new social force in China’s political life. That is, public opinion developed through the Internet, including blogs, microblogs, social media, etc., is able to set the public agenda. The Internet, especially blogs, was a “pressure cooker” that gathered like-minded activists (Hassid, 2012). In addition, while traditional media is under strict surveillance, the Internet makes it possible for the liberal elements in traditional media to perform their progressive roles.

The Internet has also played a significant role in pressuring authorities to be responsive and accountable (Tai, 2006). Facing pressure from residents, local governmental institutions find it necessary to be more responsible about public concerns when they are under the surveillance of Internet users. Being able to voice negative and opposing opinions empowers the public to impact local politics, and these voices are welcomed by forward-looking officials, who view them as a barometer of public opinion (Qiang, 2010). To some extent, Internet-driven public events are empowering both the public and the local government.

For dissent groups, the Internet turns out to be an alternative for establishing their presence and winning support both at the domestic and global levels (Tai, 2006). According to Tai, the Internet has the potential to create new forms of social ties that cannot exist in real space. The increase in building social capital online makes it possible for individuals who share similar dissenting opinions to establish online communities.

Yang (2003) analyzed the role of the Internet in the realm of Chinese politics from another perspective. He concluded that the social use of the Internet has fostered public debate and problem articulation, and this suggested that the Internet has the potential to play a supervisory role in Chinese politics. For example, Internet users have exposed a considerable

number of cases concerning serious bureaucratic problems including corruption, power abuse, etc. Public debate over issues that were previously restricted in the conventional media environment is thus facilitated by the Internet. To some extent, the Internet makes it possible for citizens to identify social problems and articulate them to a large population.

Health communication and the Internet

The past decade witnessed the growing impact of the Internet on health communication, especially the dissemination of health information in cyberspace. Health institutions use the Internet, especially social media, to enhance the overall physician-patient interaction (Eckler et al., 2010). Individual health care professionals frequently turn to the Internet to look for the latest developments in the field, to build networks within professional circles, and to contribute to open contribution sites (Spring, 2011). For individual media consumers, health information seeking is one of the primary gratifications obtained from Internet use. Health information seeking involves the search for and receipt of messages that help to reduce uncertainty regarding an individual's health status and thus construct a social and personal sense of health (Spence et al., 2013). The comprehensive model of information seeking (TCMIS) (Johnson, 1997) proposes two groups of antecedents for information seeking: health-related factors, including demographics, direct experience, salience, and beliefs and information carrier factors, including characteristics of the media and media usage. The model shares an assumption with the uses and gratifications approach: users actively select and determine the intensity of media use based on what they expect to gratify from the experience.

From the psychological perspective, Boot and Meijman (2010) summarized five central drives for seeking health information: obtaining knowledge, socializing for mutual support and empowerment, reducing uncertainty, entertainment, and increasing self-actualization. These

drives are not unique to health information seeking; they are applicable to all types of information seeking behavior. In addition to the factors that impact information seeking behavior in general, more unique variables were identified to have an impact on health information seeking online. These central drives overlap with the general uses and gratifications categories, especially the need for information (Katz et al., 1973) and informational use (Weiser, 2001). Lemire et al. (2008)'s survey was more health-specific. Their survey results suggested six major motivations for seeking information using health-related websites: understanding a health problem, obtaining alternative viewpoints, finding a solution to a particular health problem, adopting a healthier life style, and helping a friend or family member (Lemire et al., 2008).

Dutta-Bergman (2003) developed a more detailed profile of active health information seekers: active health consumers are most likely to actively seek health information online. To be more specific, the profile of an active health consumer included demographic, psychographic, and personal factors. Health consciousness, the consumer's intrinsic motivation to maintain good health, was the strongest predictor of online health information seeking behavior. Consumerism, a variable depicting the individual-level commitment to participate actively in one's consumption choices, was another strong predictor. A high level of consumerism reflected a high level of autonomy and self-efficacy, which encourages users to look for solutions on their own. Environmental consciousness and overall health media consumption also had an impact on information seeking behavior.

In terms of the consequences of health information seeking at the individual level, active information seeking has the potential to increase one's social capital. Social capital refers to resources that can be accessed through the social ties in one's network. While the overall frequency of Internet and social media use does not increase one's social capital, using media for

information acquisition is positively associated with an increase in social capital (Gil de Zuniga et al., 2012). The study revealed that all types of information exchange, including browsing news websites and sharing news stories, contributed to one's social capital. This is partially because the process of learning what is happening in one's surroundings and sharing news stories within the social network, regardless of the news content, makes users feel that they are better connected with others in cyberspace (Lee & Ma, 2012). Furthermore, according to Gil de Zuniga (2012), because social capital is often viewed as an antecedent of behavior that is oriented toward the public good at both the community and political levels, informational use of the Internet may indirectly increase civic participation. Even though the desire for civic participation is determined by a series of factors, including political knowledge and self-efficacy, getting informed about what is happening in one's surroundings is obviously the first step in getting involved in public affairs, and online information seeking has become an efficient way to learn about the latest news events.

Health care professionals play a dominant role in providing health messages and offering professional help, but patients' personal choices also impact the outcome of medical services (Black, 1988). This is primarily because "the delivery of medical care is a complex process, especially when patients and physicians do not share similar experiences, expectations, and assumptions regarding the nature and the process of the medical exchange" (Roter, 2005, p.87).

Introduced in the 1970s (Simonds, 1974), health literacy is considered a crucial element in shaping health outcomes and a critical ingredient in the quality of health (Parker & Gazmararian, 2003). WHO (2013) considers health literacy to be a key determinant of health. Health literacy encapsulates the collective set of skills and abilities needed to navigate today's complex health care system and health messages successfully (Bernhardt et al., 2005). To be

specific, typical skills include the ability to understand and communicate health information with doctors and nurses, to fill out different forms, to follow medical instructions, to read drug labels, and so on. All of these functional abilities and cognitive and analytical skills come together (Baur, 2010) to determine “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (Bernhardt et al, 2005, p.4). Health literacy is required throughout an individual’s medical experiences in order to assess and utilize health care services, interact with health care providers, care for one’s own health and the health of others, and participate in health debates and decision-making (Batterham et al., 2016).

Health literacy can be addressed at different levels of the health service setting, and a lot of stakeholders are involved in health literacy, including the news media, health care facilities, the general public, adult educators, health professionals, community-based organizations, and so on (WHO, 2013). At the personnel level, health care professionals develop strategies to deal with different health literacy needs (Batterham et al, 2016). At the patient level, health literacy is an asset that enables individuals to exert greater control over their health (Nutbeam, 2008). In addition to basic literacy skills, prior knowledge is considered an important segment of the individual capacity involved in health literacy (Baker, 2006).

Inadequate health literacy can cause many problems, especially for patients. The typical consequences of low health literacy include less health knowledge, poorer health status, higher rates of health service utilization, higher health care costs, and threats to patient safety, such as medicine-dosing errors (Weiss, 2005). Schillinger and Davis (2005) also identified that low level health literacy suggested worse clinical outcomes. Accordingly, improved health literacy further

empowers patients to make personal health decisions (Nutbeam, 2000) and to engage in a wide range of health-enhancing actions (Nutbeam, 2008).

Many factors contribute to low level health literacy. In the United States, populations with low level health literacy included the elderly, minority groups, persons with limited education, immigrants (due to language skills), the poor, the homeless, prisoners, and military recruits (Weiss, 2005). Weiss (2005) argued that both patients and providers were responsible for low level health literacy: patients only had limited education and lacked a sense of self-empowerment, and providers often made little effort to help enhance their patients understanding of medical messages.

Due to its importance, health education is directed towards improving health literacy (Nutbeam, 2000). In other words, health literacy is the outcome of education and communication at the provider-patient level, the community level, and the societal level (Nutbeam, 2008). Nutbeam argued that improving people's health literacy is not only about transmitting information, it is also about improving people's access to information and their capacity to effectively use it.

RQ4. What are the main themes of the online dialogues between celebrity physicians and their followers?

The impact of nationalism

The previous section summarized the health communication literature that addressed the interplay of health information dissemination, health literacy, and health outcomes. However, most of these health communication studies were conducted in a Western social context. In areas and countries outside of the West, especially in China, nationalism is a new factor impacting the public perceptions of conventional medicine.

Anderson (2006) considered the nation as an imagined political community, which is both inherently limited and sovereign. The nation is limited because it is supposed to encompass a certain population rather than the whole of mankind, and it is sovereign because it dreams of being independent from other nations. It is a community because the nation is conceived of as a horizontal acquaintance with deep cultural roots (Anderson, 2006). Accordingly, nationalism contains two elements: the nation-state as an institution and the nation-state as a collective identity (Zheng, 1999). As an identity, nationalism is associated with the uniqueness of the particular nation-state.

In China, nationalism has been emphasized by the Communist government. At the end of the 20th century and the beginning of the 21st century when faith in Maoism, or Communist ideologies, declined in China (Liew & Smith, 2004), the government used nationalism to justify the political legitimacy of its leadership. It used patriotism as the official discourse of nationalism within the country and as a way to strengthen China's interest abroad (Zheng, 1999). While the Chinese Communist Party led the construction of nationalism, ordinary citizens, also known as popular nationalists, were also involved in the process (Gries, 2004). For example, when the United States initiated a campaign against China's bid for the 2000 Olympics, ordinary Chinese citizens expressed their anger to American tourists (Zheng, 1999). In books like *The China that Says No* and *Behind a Demonized China*, nationalist Chinese intellectuals either directly stated or tactfully indicated a resistance to the West (Zheng, 1999).

Several reasons could explain the rise of nationalism among ordinary Chinese citizens. Zheng (1999) argued that the revival of nationalism in China could be attributed to its rapid domestic development and the consequent resurgence of Chinese power. While the Soviet Union and other Eastern European communist powers collapsed in the late 1980s and early 1990s,

China has managed to receive enormous economic and social of benefits in the course of this rejuvenation. All these economic achievements created a strong sense of national pride in Chinese citizens.

In terms of its content, Chinese nationalism was formed in the context of anti-imperialism, and it was closely associated with nationalistic warnings about the danger of national annihilation due to external invasion (Zheng, 1999). Modern Chinese history evolved from a variety of crises caused by international forces. With the intrusion of Western forces in the late 1800s, China became increasingly semi-peripheralized, or semi-colonized. In other words, “Chinese nationalism was a reaction to the humiliation that China suffered at the hands of Western imperialism” (Zheng, 1999, p.154).

Therefore, resisting the West has always been a crucial element of Chinese nationalism. The Chinese considered the rejection of the West to be central to the construction of their national identity: to certain extent, the West has become China’s alter ego (Gries, 2004). Zheng (1999) noticed that the New Left, which rose during the late 1990s, was no longer motivated by anti-foreignism, but rather it aimed to build a new national identity for China by emphasizing the “Chineseness” of China’s post-Mao reform. Rather than endorsing direct conflicts between China and the West, or Chinese ideologies and Western values, the New Left emphasized differentiating between Chinese civilization and Western civilization. Being confident in China’s traditional past and recent past, Neo-nationalism insisted that China should seek an alternative model of modernization that was distinct from the Western model (Gao, 2004). These ideas suggested that even though direct confrontation was no longer emphasized, the key theme of contemporary nationalism was to resist the intrusion of Western influences (Zheng, 1999).

Along with the theme of resisting Western culture, nationalists emphasized the survival and revival of Chinese civilization. This kind of “cultural nationalism” valued traditional Chinese beliefs such as Confucianism (Zheng, 1999). From the cultural perspective, nationalism is an alternative version of cultural production: it is an attempt to define culture in relationship to the territory of a nation-state (Ong, 2005). The redefinition of culture has been observed in different Asian countries. For example, the cultural revival in Ceylon featured the creation of the term “national culture”, which bonded people together as a distinctive entity that arose out of nationalism, political independence, and new nationhood (Sarachchandra, 1995). According to Max Weber, modernity is about techniques of rationalization in various spheres of life. With society becoming progressively more organized and rationalized, culture is gradually suppressed and driven underground. This kind of disenchantment of culture resulted in the fact that everything looked the same in different areas and that local culture was in crisis. Therefore, for Asian countries, there has always been a tension between modernity and nationalism (Ong, 2005).

The tension between modernity and nationalism could be present in various social spheres. Using the theoretical framework of nationalism, the conflicts between conventional medicine and TCM can be understood as a reflection of such tension. From a philosophical perspective, medicine is essentially a way of thinking (Black, 1988). Accordingly, conventional medicine is a reflection of Western ways of thinking. The introduction of conventional medicine to China became a form of “Western influence” that nationalists opposed (Zheng, 1999). Therefore, public resistance stemming from nationalism can be considered a factor that impacts the reception of medical knowledge in countries such as China.

Celebrity-fan relationship

Scholars have identified two types of affiliations that connect celebrities and their fans: role model-observer (Barbas, 2001) and product-consumer (Galbraith & Karlin, 2012). In both models, celebrities are products invented by the culture industry (Barbas, 2001), and their fans are inherently the consumers of the symbols and ideas conveyed by the celebrities (Galbraith & Karlin, 2012). For example, in Hollywood, the film industry fabricates the identities of stars, and fans are expected to regard their idols as personal role models (Barbas, 2001). In Japanese fandom culture, celebrities present both their real and onscreen lives to the public in order to win their fans' support (Galbraith & Karlin, 2012).

In the film industry, between the 1910s and 1950s, Hollywood invented the “star system” where specific actors and actresses were given prominent roles in films and were promoted as such. Fans developed para-social relations with these stars (Horton & Wohl, 1956; Rubin, Perse, & Powell, 1985); they started to build fan clubs in order to have further communication with film stars and attempted to control and participate in the filmmaking process (Barbas, 2001). Barbas (2001) considered fans to be a personality-hungry public, who viewed their idols as personal role models. Accordingly, fans were often shattered when their idols failed to comply with what they expected. Moral contradictions to their public images, such as scandals, often broke stars (Prusa, 2012). To please the fans, studios and celebrity practitioners used various means to help celebrities maintain the appearance of desirable personalities. In a typical fan-building industry, celebrities' identities are largely fabricated. The typical Hollywood model of star-selling involves the invention of a new personality, the artful performance of that personality, and the presentation of the ideal personality to the public (Barbas, 2001).

Japanese idol culture was a typical example of how celebrities were produced and consumed in East Asian countries. Since the 1970s, Japanese idol culture has developed a sophisticated system of producing celebrity personalities and selling idols. Japanese idol culture views fans as mere consumers, who consume idols as objects of desire (Galbraith & Karlin, 2012). While Hollywood film stars are expected to have some talent in their performances, Japanese idols do not have to be greatly talented at any conventional skill, such as singing or dancing. As such, Japanese idols are considered interchangeable and disposable commodities that are produced and sold to maximize consumption (Galbraith & Karlin, 2012). Because idols' public and private lives are both emphasized by the media, fans tend to conceive of themselves as participants in idols' lives rather than mere observers (Prusa, 2012). In the Japanese model, fans have a stronger connection with celebrities and, like the Hollywood model, the maintenance of the celebrity-fan relationship is dependent on whether fans continue to like celebrities' identities.

The Internet, especially social media, has had an impact on celebrity culture. Soukup (2006) argued that the Internet fostered the creation of "fansites", through which fans have more direct dialogues with celebrities, have more control over celebrities' representation, and obtain stronger personal identification with the celebrities they worship. This trend is particularly obvious in celebrity-fan relationships in pop culture. On general social media sites, such as Twitter, celebrities have identified new ways to maintain desirable relationships with their fans. Marwick and Boyd (2011) noticed that using @replies, celebrities and fans have more chances to be directly connected. They also identified that social media, like Twitter, has created a context in which multiple audiences co-exist. Therefore, celebrities attempt to negotiate these multiple audiences to maintain their popularity successfully. By strategically revealing some personal

information, celebrities try to create a sense of closeness and familiarity between themselves and their social media fans. Even though celebrity discourse is open to all users on social media, it is not equalizing or democratizing; instead, celebrities have more power overall in shaping the discourses and in determining their relationships than fans do (Marwick & Boyd, 2011).

The previous sections summarized the literature describing the interactions between celebrities and their fans. This project tried to seek a general profile of celebrity physicians' fans and to explore their gratifications obtained from following celebrity physicians.

RQ5. What are social media users' motivations for following celebrity physicians via social media?

RQ6. What gratifications do social media users obtain from following celebrity physicians via social media?

RQ7. How does following celebrity physicians online impact social media users' perceptions of health-related, political, and cultural issues?

CHAPTER 4

METHODS

The purpose of the study is to examine Chinese celebrity physicians' motivations for establishing a professional presence in cyberspace, to explore the ways celebrity physicians utilized social media to achieve professional goals, and to reveal the dynamics of the online interactions between celebrity physicians and their social media fans. The research questions attempt to reveal celebrity physicians' media use motivations, gratification, content production, and a basic profile of their fans. I used in-depth interviews, textual analysis, and survey methodologies to seek answers to the research questions.

Interview with celebrity physicians

To answer RQ1, "What are celebrity physicians' motivations for establishing a professional presence via social media?", RQ2, "How do celebrity physicians use social media to establish their professional presence?", and RQ3, "What gratifications do celebrity physicians obtain from establishing a professional presence via social media?", I did semi-structured in-depth interviews with 20 celebrity physicians from February to June 2015.

In-depth interviews, also known as intensive interviews, are commonly used to yield exploratory, descriptive, and explanatory data. The methodology is issue-oriented, and it assumes that interview participants have unique and important knowledge about the issues being studied (Hesse-Biber & Leavy, 2006). In-depth interviews are appropriate methods when the researcher wants to "understand in a richly detailed manner what an interviewee thinks and feels about some phenomenon" (Baxter & Babbie, 2004, p. 326). I used in-depth interviews to seek answers to RQ1, RQ2, and RQ3 because this method helped me focus on and gain information

about a particular topic, celebrity physicians' media use motivations and gratifications, from interview respondents.

I contacted the celebrity physicians on the name list I created during the textual analysis process (to be described in the next session) via in-site emails on Weibo. Six celebrity physicians agreed to participate, and I did online interviews with five of them and a face-to-face interview with one of them in China. I used snowball sampling to find more celebrity physicians by contacting the celebrity physicians I followed on Weibo. The interview participants were also willing to introduce me to their colleagues or college classmates who also played an active role in disseminating health-related information on Weibo. I did thirteen face-to-face interviews and one phone interview with the celebrity physicians recruited through the snowball process. Due to geographic restrictions, participants identified from the snowball sampling were all from Shanghai. A total number of twenty interviews were conducted. The face-to-face interviews took place in different types of locations, including cafes, tea houses, restaurants, and doctors' offices. The longest interview lasted two and a half hours, and the shortest interview took fifty minutes. On average, the length of each interview was approximately one hour and fifteen minutes.

All the interview participants were from urban areas of China (15 from Shanghai, 4 from Beijing, and 1 from Chengdu). Eighteen of them worked at Tertiary hospitals and two of them worked at regional hospitals. Participants ranged in age from 28 to 54, 8 male and 12 female, with an average age of 34. In terms of their areas of expertise, participants covered a wide range of medical subfields (see the following table). Eighteen of them had a doctoral degree in medicine, and two of them had a master's degree in medicine. To ensure the confidentiality of interview participants, I used pseudonyms that were not related to their actual names when I

quoted them in the results chapter. I followed the IRB procedures during all the interview processes.

Table 1 Interview participant demographics

Pseudo name	Number of follower*	Number of posts*	Gender	Age	Area of expertise	Location	Interview date
Gan	6,443	1,321	Female	35	General Surgery	Beijing	April 2015
Hong	11,252	3,646	Female	31	Unknown	Shanghai	June 2015
Hui	4,691	2,029	Male	Unknown	Unknown	Shanghai	June 2015
Jian	9,339	3,183	Female	Unknown	Unknown	Beijing	February 2015
Lifen	10,083	4,020	Female	54	Ultrasound Diagnosis	Shanghai	June 2015
Ling	11,366	1,769	Female	34	Emergency Dept., and Hematology	Shanghai	June 2015
Meng	9,652	1,276	Female	35	Rehabilitation	Shanghai	March 2015
Peng	8,337	756	Male	29	Unknown	Beijing	June 2015
Qi	8,396	1,495	Female	32	Oncology	Shanghai	March 2015
Sue	5,994	3,233	Female	31	Internal Medicine	Shanghai	March 2015
Tian	17,336	1,540	Male	34	Hematology	Shanghai	June 2015
Tu	16,333	2,291	Male	28	Internal Medicine	Shanghai	March 2015
Wei	9,135	1,056	Male	39	Oncology	Shanghai	June 2015
Wen	6,349	1,562	Female	29	Pediatrics	Shanghai	May 2015
Xue	7,090	661	Male	31	Neurology	Shanghai	June 2015
Yilin	4,560	1,573	Female	35	Hematology	Beijing	May 2015
Yin	4,698	1,147	Female	34	EENT	Shanghai	May 2015
Yuan	4,121	960	Female	36	Pediatrics	Shanghai	May 2015
Zhong	4,350	1,219	Male	30	Internal Medicine	Chengdu	April 2015
Zhu	8,604	1,402	Male	34	General Surgery	Shanghai	May.2015

* Data as of April 2016.

The interviews were semi-structured. In a semi-structured interview, questions are open-ended in nature, and the interviewer probes for additional details based on what the respondent

says (Baxter & Babbie, 2004). The researcher sets “a line of inquiry”, or “domain of inquiry”, to “get at” information in each of these lines (Hesse-Biber & Leavy, 2006). In this project, the line of inquiry mainly covered three topics: health, politics, and culture. Central questions asked in each line are listed in Appendix A. These questions were asked to all the interview participants, and I asked different follow-up questions depending on the specific answers given by the participants.

To analyze interview data, I followed the three steps recommended by Hesse-Biber and Leavy (2006): data preparation, data exploration, and data reduction. First, during the data preparation phase, I audiotaped the interviews and took concurrent notes. Four interviews were not recorded because the respondents strongly objected to having the interview recorded. I took very detailed notes during these interviews. I included respondents’ answers to the major interview questions, his/her opinions on important issues, such as the doctor-patient relationship and the medical system, and examples illustrating their points. I also used arrows and signs to illustrate respondents’ elaboration of their viewpoints. In addition, directly following these interviews, I wrote memos (Fielding & Thomas, 2001; Merriam, 2009) to summarize the respondents’ answers that were most relevant to my research questions. The purpose of the memos was to help me determine major coding categories during the second phase, and to help me identify important quotes that answered the research questions. I used the memos and the concurrent notes taken during the interviews as field notes for the interviews without audiotapes. For the audiotaped interviews, I transcribed the first seven interviews. Verbatim transcription is not always necessary for a project using mixed methods and seeking thematic answers (Halcomb & Davidson, 2006), and selective transcription is allowed when the researcher has become very familiar with the interview content (Fielding & Thomas, 2001). Therefore, for the remaining

interviews, I only selectively transcribed the interviewees' answers that were directly relevant to my research questions. I relied on my field notes and transcripts in the following data analysis process.

Second, during the data exploration phase, I used the constant-comparison method (Strauss & Corbin, 1998), also known as analytic coding (Baxter & Babbie, 2004), to analyze data. The typical process of the constant-comparison method involves reading through the data, identifying recurring categories, and grouping data into coding categories. I read my field notes and transcripts, and used different colors and numbers to highlight the arguments and themes that were mentioned repetitively by different interview participants. The universal themes were later developed into coding categories. For example, respondents complained that many of their patients did not follow doctors' medical instructions, that they were frustrated when their patients had little medical common sense, and they expressed an urgent need for their patients to learn basic medical knowledge. As such, I developed the code "low level of health literacy" to analyze respondents' motivations for introducing medical knowledge to patients themselves.

Finally, during the data reduction phase, I coded the respondents' answers according to the themes and categories identified in the previous step: perceptions of the doctor-patient relationship and the health care system, motivations for using social media, media use behavior, and so on. For example, I coded answers such as "media distorted doctors' images", "journalists don't listen to us", and "media stories have had a very bad social impact" into the category of "dissatisfied with conventional media". By the end of the data reduction phase, I reorganized my data by theme categories and translated important quotes into English. I tried to answer the research questions by summarizing the highlighted themes identified in the categories. The following table lists the prominent themes and example quotes.

Table 2 Interview coding categories and example quotes for each category

RQ1 (motivations)	
Low level of health literacy	<p>I think they (patients) need to be taught how to treat our medical suggestions. Very sad to know patients appear to trust quacks more than us.</p> <p>I wish I could teach my patients... but apparently I don't have enough time to do so during working hours.</p>
Dissatisfied with conventional media	<p>Media have converted us from 'angels in white clothes' into 'devils wearing white clothes'.</p> <p>Can't image a journalist could use a cup of tea as her urine sample only to 'examine' the ethics of doctors. They always criticize us for being unethical, but I think they are not only unethical, but also ignorant.</p> <p>Media have ruined the trust between patients and us.</p>
Dissatisfied with the government	<p>Government has never told patients that doctors constantly worked overtime to treat patients.... It still implies that we are not 'nice' enough so that patients had to wait for hours to visit us... This is unfair.</p> <p>There have been a lot of administrative orders that attempted to stop workplace violence... but to be honest, I never see them put into practice.</p> <p>Yi Nao gangs are not difficult to handle actually... violence can't be stopped only because (the government) does not care about the safety of doctors at all.</p>
RQ2 (media use habits)	
Medical content production	<p>I try to present an objective view of my discipline: it is not magic, but it is much more helpful than TCM.</p> <p>I don't like 'advertising' new medication approaches, they have limitations – I need to let my readers know.</p>
Identity presentation	<p>Don't like being expected to be a supernatural being who does not need rest or personal life. I'd like to tell the public having a happy life does not prohibit me from being a good doctor.</p> <p>You should not expect a doctor to think about medicine all the time in her life.</p>
Dealing with trolls	<p>(Their comments) were offensive, but I got used to them. Patients said the same thing in real life as well... so nothing special or shocking to me.</p> <p>I think they are honest, they are really that angry with us... I think they are deceived by (conventional) media.</p>
Collective efforts	<p>I'd like to retweet posts from Li Qinchen and Yu Ying. They were influential enough to call for public attention to social issues.</p> <p>Retweeting makes our voices louder... Very happy to see my friends outside of the medical circle spreading the voices from doctors.</p>

Table 2. Continued

RQ3 (gratifications)	
Emotional release	<p>Tweeting does not help address the problems... has the government ever answered our call? But anyways, I shared by angriness with my colleagues and other doctors.</p> <p>Within the current political system, saying something online could not impact governmental decisions. But I'd still consider it to be a progress because the problem of the health care system is openly presented to the general public, and doctors' perspectives are involved.</p>
Rebuild trust	<p>Like most of my patients who appreciated my work, most of my Weibo followers could understand my profession and were sympathy about the situations doctors are facing. I wish they could expand their influence to their family members and close friends, so that more people would trust us.</p> <p>Weibo users (note: actually her followers?) are much better educated than the average. They could understand doctors were not able cure all kinds of diseases... many patients and their family members were not that rational.</p>

Textual analysis

To answer RQ4, “What are the main themes of the online dialogues between celebrity physicians and their followers?”, I did textual analysis of the online conversations between celebrity physicians and their social media fans. Textual analysis is defined as a type of qualitative analysis that studies the underlying meanings of a text, and the approach suggests that the latent meanings and implicit patterns of a text can be identified by coding it (Fursich, 2009). Textual analysis is often used to help researchers understand social processes and to generate theories about social life through “nonliving” materials (Hesse-Biber & Leavy, 2006). Interpretation of a text is the basic level of textual analysis, and the text in the current study refers to tweets published by celebrity physicians, as well as comments and feedback posted by social media users. The conversations I examined included 1) the original posts published by celebrity physicians; and 2) responses and feedback from social media users on celebrity physicians’ posts.

Weibo is a Chinese social media site run by Beijing Weimeng Technology Company (“Operating Internet Culture”, n.d.). The website was named Sina Weibo when it was first launched in August 2009, and it changed its name to Weibo in April 2011 (“Sina Weibo started to use”, 2011). The ownership of Weibo is very complicated. Large media conglomerates in China, such as SINA and Alibaba Group, have prominent shares in the Weibo Corporation. Like Twitter, the primary function of the website is to allow users to “post a feed up to 140 Chinese characters and attach multimedia or long-form content”, and users can follow other users and add comments to postings like on Twitter. Weibo also allows users to attach pictures and other documents, such as Word and PDF files, to their posts. Weibo is considered a leading social media platform in China, and it attracted 175.7 million active monthly users and 80.6 million active daily users by the end of 2014 (“United States Securities and Exchange Commission”, 2015, p. 1 & 44-45).

To identify celebrity physicians who were presenting their professional identities on Weibo, I 1) searched relevant key words embedded in their IDs (e.g., doctor, physician, health, and medicine), and 2) checked the name lists associated with influential social media homepages for health-related organizations (e.g., *Good Doctors Online*). Having a health-related key word in their ID or being openly associated with the official accounts of online medical associations (e.g., *The Clove Garden*) suggested that the users presented their professional identities online. Celebrity physicians who did not meet any of the above criteria were left out, but this was not likely to weaken the reliability of the results because the vast majority of celebrity physicians presented health-related information on their homepage, and the study did not attempt to survey all celebrity physicians.

I used purposive sampling to identify the celebrity physicians who tweet via Weibo on a regular basis. The sampling frame had three criteria. First, the celebrity physicians had to have updated his/her social media home page at least once a week between December 2014 and February 2015. Second, these tweets had to have received feedback from ordinary social media users (e.g., users “liked” the original post, asked a follow-up question, or wrote comments in the feedback section). Finally, due to the large number of social media users in China (175.7 million active monthly users and 80.6 million active daily users), only tweets from celebrity physicians who had more than three thousand followers were collected. Another reason for setting the three thousand fan minimum was that an ordinary Weibo user was likely to have hundreds of followers, so celebrity physicians were expected to obtain a much larger fan group in order to be considered “celebrities”. These criteria ensured that the celebrity physicians played an active role in presenting information about their fields and that they were recognized by a considerable number of ordinary Weibo users.

I created a name list of celebrity physicians identified from the previous processes, and I ranked them by the number of followers they had. I used the list to 1) sample the tweets posted by these celebrity physicians, and 2) contact and recruit interview participants. The original list included 68 celebrity physicians, whose fan base ranged from approximately three thousand to three million.

To sample the content for the textual analysis, I first randomly chose fifteen celebrity physicians from the name list. The celebrity physicians chosen ranged widely in terms of their number of fans as well as the number of tweets they posted. Second, I created a “constructed Weibo page” for each celebrity physician. I browsed the posts of each celebrity physician by page and picked up the first original tweet that showed up on each page. The randomly chosen

tweets comprised the constructed Weibo page. Similar sampling methods have been used in studies that examined the activities of particular Twitter accounts (e.g., Bonini & Sellas, 2014; Rybalko & Seltzer, 2010). An original tweet refers to a post that included new information provided by the celebrity physician, rather than a simple answer to a follow-up question or a retweet without original comments. I browsed the first five pages of each selected celebrity physician and selected up to five posts. A total number of 75 threads were collected, and each thread included both the original tweet and the responses from fans/followers.

Table 3 Textual analysis sources

Case ID	Weibo ID	Area of expertise	Number of followers*	Number of posts*	Geographic location	Date range of the posts selected
1	营养师顾中一 (Nutritionist Gu Zhongyi)	Nutrition Science	2,524,579	11,314	Beijing	December 17, 2014 – February 2, 2015
2	烧伤超人阿宝 (Burns Dept.'s Superman A Bao)	Burns Treatment	509,620	14,968	Beijing	January 1 – February 20, 2015
3	协和张羽 (Zhang Yu at Xiehe)	Obstetrics and Gynecology	617,742	5,222	Beijing	December 20, 2014 – February 3, 2015
4	龚晓明医生 (Dr. Gong Xiaoming)	Obstetrics and Gynecology	817,361	10,772	Beijing	January 1 – February 3, 2015
5	罩得住他爸 (Zhaodezhu's dad)	ENT and Neck Surgery	155,372	3,155	Chengdu, Sichuan	December 22, 2014 – January 25, 2015
6	波子哥-廖新波 (Brother Bozi – Liao Xinbo)	Pathology	3,548,460	16,413	Guangzhou, Guangdong	January 14 – February 2, 2015

Table 3. Continued

7	协和谭先杰 (Tan Xianjie at Xiehe)	Obstetrics and Gynecology	384,673	2,718	Beijing	September 15, 2014 – January 25, 2015
8	小儿外科裴医生 (Pediatric Surgeon Dr. Pei)	Pediatric Surgery	497,103	3,663	Shenzhen, Guangdong	June 11, 2014 – February 2, 2015
9	成都下水道 (Chengdu's sewer)	Urology	365,555	1,154**	Chengdu, Sichuan	December 1, 2014 – February 3, 2015
10	急诊科女超人于莺 (Superwomen Yu Ying at the Emergency Dept.)	Emergency Treatment	3,057,283	1,216**	Beijing	November 7, 2014 – February 3, 2015
11	东大夫 (Dr. Dong)	Gastrointestinal Oncology	137,480	11,020	Beijing	December 10, 2014 – January 28, 2015
12	肿瘤学博士蔺宏伟 (Lin Hongwei, Doctor of Oncology)	Oncology	142,963	5,204	Beijing	December 20, 2014 – January 27, 2015
13	连锋医生 (Dr. Lian Feng)	Cardiac Surgery	67,999	5,252	Shanghai	December 31, 2014 – February 3, 2015
14	白衣山猫 (Bobcat in white clothes)	General Surgery	2,154,356	2,701**	Not specified	January 1 – February 3, 2015
15	消化科倔老头 (Stubborn old man in the Gastroenterology Dept.)	Gastroenterology	98,735	4,428	Suzhou, Jiangsu	December 30, 2014 – February 2, 2015

* Data as of April 2016.

** These users tweeted very frequently, so the actual total number of their posts was expected to be much larger than the number presented on their Weibo homepage. I anticipate that they constantly deleted their early posts.

I followed a directed approach and a summative approach to conduct the textual analysis. The directed approach suggested that the analysis should begin with existing theories as guidance for initial codes (Hsieh & Shannon, 2005). In this project, I identified three prominent coding categories from the literature review: health, politics, and culture. The summative analysis involved counting and comparing certain key words, followed by interpreting the underlying context (Hsieh & Shannon, 2005). After I coded Weibo posts into different categories, I identified the key words and themes that appeared repetitively within a certain category. Due to the uniqueness of online conversations, the “key words” in this project were not limited to conventional key words, but they also included *emojis* and icons such as “like”.

The textual analysis involved an analysis of the original tweets and the conversations in the feedback sections. First, I categorized tweets by their primary themes. Categories included health, politics, and culture. The category of health included content concerning all types of information about conventional medicine; the category of politics covered content addressing the health care system, policies, and the doctor-patient relationship; and the category of culture referred to content about TCM and other cultural issues in China. If the tweet appeared to cover more than one theme, it was categorized into a new category such as “political + cultural”. After that, I analyzed the tweets within each category and explored the following aspects: 1) the topic of concern, what specific issue the celebrity physician was talking about in the tweet; 2) attitudes, the celebrity physician’s attitude towards the issue; and 3) tones, how the celebrity physician conveyed the message to the public, sensationally, calmly, or otherwise.

The amount of feedback that celebrity physicians received on their tweets varied widely, depending on the number of fans they had. Therefore, the content of the feedback was more

important than the volume of feedback. For each of the tweets, I browsed the feedback section and analyzed the following aspects: 1) the dominant opinions expressed by fans, did they agree with the celebrity physician or not?; 2) if fans agreed with the celebrity physician, how did they respond (did they simply appreciate the celebrity physician and click “like”, or did they use personal experiences to endorse the claim, etc.)?; 3) if fans disagreed with the celebrity physician, how did they respond?; 4) under what circumstances would fans ask celebrity physician to provide additional information, and how did the celebrity physician respond to the requests?; and 5) if fans initiated dialogues among themselves, what did they talk about? How were the conversations carried on and how did the conversations end? For each category of tweets, I summarized the common patterns identified in fans’ feedback. The findings showed that the topics celebrity physicians and their followers were interested in complemented their media use motivations and gratifications. Below is the list of categories used in the textual analysis and sample tweets for each category.

Table 4 Textual analysis coding categories and example quotes for each category

Category/topic	Original tweet	Attitude and tone	Representative comments	Sub-topics initiated by fans
Health	“... you do not need to take X-ray for an ordinary annual health check...”	Pro-conventional medicine; neutral	“Great!” “Thanks!” “So it would be wise of use to reject doctors’ suggestions for X-ray during the annual health check? ” “The X-ray helped me identify Lymphoma”	“Taking how many X-ray tests per year is safe?” “Should tuberculosis patients take more X-ray tests?”

Table 4. Continued

Politics	“This is killing gynecologists... and at that time we ordinary citizens will be the people hurt most (quoting a news story)”	Opposed governmental activities; sensational, sound angry	“Feeling sad.” “I support Dr. XX.” “Why does the government always do something stupid?” “I think doctors should be penalized, had encountered so many unethical doctors.”	Unpleasant medical experiences; Friends and relatives being treated carelessly by doctors; Other cases in which governments’ wrongly accusing physicians
Culture	“TCM will die out with the progress of human civilization.”	Against the use of TCM; neutral	“So sad, still so many people like TCM.” “Don’t talk about science with the ‘morons’.” “You can’t draw a conclusion without knowing the subject well. Dr. XX, I think you are too biased this time.”	None.

Survey of the celebrity physicians’ social media fans

To answer RQ5, “What are social media users’ motivations for following celebrity physicians via social media?”, RQ6, “What gratifications do social media users obtain from following celebrity physicians via social media?”, and RQ7, “How does following celebrity physicians online impact social media users’ perceptions of health-related, political, and cultural issues?”, I did online surveys of the fans of celebrity physicians. The purpose of a survey is to reflect the attitudes, preferences, and opinions of the public by soliciting self-reported information from people (Rea & Parker, 2005). Researchers use survey data to describe, explain, and explore social issues (Babbie, 1998). Survey methodology is appropriate for this study

because I expect to reveal a general demographic and psychographic profile of celebrity physicians' social media fans. I used Quatrics to design and distribute the questionnaires. The survey was active online from May to August 2015.

I did the interviews with celebrity physicians first and then disseminated the surveys to their fans. This process was efficient for two reasons. First, the social media fans constituted a large population, but they were very difficult to find in real space. Purposive sampling (Babbie, 1998) is appropriate for targeting a population like this. I relied on celebrity physicians to identify this group of people. I established good relationships with the celebrity physician interviewees and asked them to announce the survey to their social media followers. Letting them announce the survey ensured that those who received the information were the people I attempted to target. Second, the interviewees helped me identify a few aspects that were not predicted by previous uses and gratifications literature but were important to this study. For example, celebrity physicians argued that the government did a poor job in designing and running the health care system, which was the major cause of all types of unpleasant medical experiences. To understand the extent to which fans agreed with this argument, I added a few more questions to examine fans' opinions about the role of the government in managing the health care system.

Nine participants agreed to post a link to the survey as a regular tweet. Initially, I only planned to invite fans to take the survey; however, a lot of "non-fans" were encouraged to take the survey as the project went on. Three interview participants shared the survey directly with their colleagues in order to obtain more respondents, and one of them invited me to print out hardcopies of the survey and distributed them during a public lecture she gave to college students. Sending out surveys to their colleagues and distributing them to the audience of a public lecture

resulted in a large number of survey respondents who were not the celebrity physicians' social media followers, but who were mostly ordinary college students. Realizing a lot of "non-fans" took the survey, I changed the order of the survey questions: I placed the questions relevant to following celebrity physicians in the second half of the survey so that "non-fans" were only asked to finish the first half of the survey, which covered general social media use behavior, cultural, beliefs and perceptions of the doctor-patient relationship. I used data from these respondents to compare their opinions on a few important issues with those of celebrity physicians' fans.

Besides basic demographic variables, the items tested in the survey were identified from previous literature and interviews. I used categories identified by Rubin (2009) and Leimire et al. (2008) to study respondents' motivations for and gratifications obtained from following celebrity physicians. I also used the popular myths about TCM summarized by Scheid (2002) to evaluate respondents' attitude towards TCM. In addition, because both the textual analysis results and the interview results suggested that the government's responsibility for running the health care system and the relationship of trust between doctors and patients were important themes in celebrity physicians' online activities, I added additional items to the survey to seek respondents' attitudes on these issues. Important variables in the survey are attached as Appendix B.

I discarded the cases in which less than 1/3 of the questions were answered. Finally, 403 valid cases were collected. 235 (57.9%) respondents were fans and 171 (42.1%) respondents were ordinary social media users ("non-fans"). Of these, 221 (54.4%) were male, 175 (43.1%) were female, and 10 (2.5%) did not indicate their gender. Additionally, 320 (78.8%) respondents had acquired or were pursuing an undergraduate degree or above, 67(16.5%) had senior high school certification, and 19 (4.7%) did not indicate their educational background. The

respondents ranged in age from 18 to 32, with a mean of 21.08 (SD=2.39, N=399), which was close to the average age of Weibo users (“Sina Weibo user demographics”, 2014; “China social media users insight”, n.d.).

CHAPTER 5

RESULTS

In this chapter, I will present the findings from the interview, textual analysis, and survey. These findings will answer the research questions and address the following issues. First, interview results reveal the factors that shaped celebrity physicians' social media use behavior. These findings also demonstrate the ways in which celebrity physicians pursued their professional and political goals. Second, textual analysis results present the themes and dynamics of the online conversations between celebrity physicians and their social media followers. Finally, survey with social media users shows the fans' media use motivations and gratifications, and it also indicates the short-term impact of celebrity physicians' social media activities.

Celebrity physicians' media use motivations

The first research question was concerned with celebrity physicians' motivations for establishing their professional presence on social media. By interviewing twenty celebrity physicians and using the constant comparison method (Strauss & Corbin, 1998) to analyze their interview responses, I identified the primary reasons that drove celebrity physicians to present their professional identities online: distrust from patients, biased conventional media depictions, and conflicts with the government.

The uses and gratifications approach suggests that media use is selective and goal directed (Rubin, 2009). People play an active role in deciding the medium they use, the content they consume, and the ways they use media (McQuail, 2010). Overall, media use is expected to be functional (Ball-Rokeach, 1998). Therefore, establishing a professional presence via social media was not a random performance of celebrity physicians, and obtaining a large group of fans online has profound implications, other than making them famous in cyberspace. Celebrity

physicians tweeted and interacted with their fans in order to challenge the government and media narratives about health and to reclaim their professional identities. They expected their online activities would increase public health literacy and rebuild a relationship of mutual trust between doctors and patients. Like other dissident groups, whose opinions were suppressed by conventional media (Tai, 2006), celebrity physicians used social media to rebuild a discourse about their profession and the health care system that was not in favor of the government.

In addition to psychological factors that shape individual media use behavior, social roles and life positions also contribute to media use (Denoheew et al., 1987). The unique social position of celebrity physicians in China shaped their online presence. Interview results suggested, regardless of their areas of expertise, celebrity physicians were frustrated by the current health care system in China. According to interview results, celebrity physicians believed that health care professionals in China faced three primary concerns: distrust from patients, biased media representation, and the government treating doctors as scapegoats of the failed health care reform. They believed these problems contributed to the increasingly deteriorated doctor-patient relationship and prevented doctors from living a decent life. Therefore, to address these concerns, celebrity physicians decided to turn to social media, a platform that facilitates self-expression and interpersonal communication with a large population (boyd & Ellison, 2007). The following section will discuss these important factors that motivated and shaped celebrity physicians' online activities.

Distrust from patients. According to classic U&G assumptions, one of the primary social origins of media use is individuals' social positions and life experiences (Blumler & Katz, 1975). To Chinese celebrity physicians, the motivations for posting health-related content online, primarily, resulted from miscommunication with their patients. Celebrity physicians tried to use

Weibo to disseminate medical knowledge, because they observed a low level of health literacy and a lack of scientific knowledge among their patients, which had damaged the relationship of trust between doctors and patients. The unique experiences of being distrusted by their patients had inspired celebrity physicians to produce media content that would promote public health literacy.

Health literacy is one of the key factors shaping the communication between doctors and patients (Nutbeam, 2008). Low level of health literacy resulted in the fact that patients had unrealistic expectations of doctors. Celebrity physicians were frustrated when they were forced to spend a lot of time explaining to patients that physicians could only try their best to address the medical concerns, but no one could guarantee success. “Unfortunately, so many people had little knowledge about the limitation of science”, said Zhong, who had been working at the internal medicine department since he finished the residency.

The absence of prior knowledge about health (Baker, 2006) and conventional medicine led to unfair criticism of doctors. Celebrity physicians had all encountered situations when patients criticized them for being “unqualified” (“*meibenshi*”). Celebrity physicians felt they were being wrongly accused, because health care providers were not powerful enough to cure all types of diseases. Sue, a female physician working in the inpatient department of cardiology, noticed that many patients could not understand the uniqueness of medical practices, in which right conduct did not always result in perfect results. In contrast, she noticed that many family members believed that she and her colleagues should be responsible for the death of the patients, regardless of the critical conditions of these patients. Expecting doctors to cure all kinds of diseases, in turn, made patients more disappointed with the doctors they met in real life, and this

kind of disappointment also made celebrity physicians feel that their efforts and contributions were not recognized.

Besides unrealistic expectations, lack of knowledge often resulted in patients' not following physicians' instructions. For example, Tu, a male physician from the internal medicine department, often encountered patients who stopped taking antihypertensive medicine, disregarding his instructions. He thought that patients neglected his advice, because they knew little about the complexity of cardiovascular diseases, such as high blood pressure, and patients were overly confident in making medical decisions by themselves. "If patients understood that diseases, especially chronic diseases, couldn't be cured within a short period of time, they would certainly better trust us and take our medical advice," said Tu. Celebrity physicians believed that popularizing health-related knowledge, such as the feature of chronic diseases and the importance of following medical advice, would benefit both patients and health care providers. Unfortunately, as Xue, a male doctor working in the neurology department, described, "outside of the hospital, you always see more advertisements from quacks than professional articles written by physicians, and within the hospital, it is impossible for doctors to spend two hours on each patient only to educate them."

Overall, most of the interview participants either mentioned directly or indirectly that the public should be educated with basic health-related knowledge, which could reduce many unnecessary misunderstandings between doctors and patients. "But who can teach them?" asked Yin, a female doctor working in the EENT (Eye, Ear, Nose, and Throat) department. While Yin and other celebrity physicians realized that conventional media made little efforts in disseminating reliable knowledge about science and medicine, they thought it was time to do it with their own efforts.

Biased conventional media representations. Scholars have noticed that identity construction and self-expression are important motivations for social media use (Weiser, 2001; Shao, 2009). Ordinary users express their opinions and build their personal identities through publishing posts, making comments, sharing and rating content, and communicating with other users (Shao, 2009). As a social group, health care professionals had been portrayed by various conventional media stories. However, Chinese celebrity physicians were very dissatisfied with the conventional media depictions of their profession, which encouraged them to use social media to build a more desirable image. This section will discuss their perceptions of doctors' images in conventional media.

Although almost all the celebrity physicians had the very unpleasant experience of handling patients with low levels of health literacy, they didn't think individual patients were the persons to blame. Instead, they believed the mass media played a prominent role in misleading the public and destroying the trust between physicians and patients. Celebrity physicians were disappointed with how conventional media depicted health care professionals in China. They noticed that mainstream media coverage of health-related issues, especially those about medical disputes, ignored basic health-related knowledge, denied the hard work of physicians, and wrongly accused doctors for being unethical.

In celebrity physicians' opinions, conventional media created an illusion that health care professionals in China were unprofessional and unethical, and their unprofessionalism had destroyed the "good" health care system established by the government. This kind of unprofessionalism was often presented in media as unethical behaviors during various medical practices, including treating patients carelessly during operations, requesting "red envelopes" from patients, prescribing expensive but unnecessary medicine to make more money, and so on.

Conventional media, sometimes, used the term “morally corrupted” to describe doctors in China. Celebrity physicians argued that most of these accusations were ungrounded, and they believed the distorted media coverage ruined the reputation of health care service providers and deteriorated the doctor-patient relationship in real life.

Interview participants argued that the sensational and entertainment media agenda (Seale, 2004) had produced a considerable number of stories that distorted the images of health care professionals. Celebrity physicians found three of them to be most representative and had the worst social impact: the cases of “eighty-cent baby”¹, “stitched anus”², and “a urine test for

¹ “Eighty-cent baby” (“*bamaoqian ying'er*”): In September, 2011, conventional media outlets covered the story of a new father, Mr. Chen: Mr. Chen’s son was diagnosed with Hirschsprung by Shenzhen Children’s Hospital, but Mr. Chen refused to let his son accept the surgery as requested. He took his son to Guangzhou Children’s hospital, where his son’s condition was temporarily relieved right after taking a pill that only cost eighty cents. Mr. Chen told journalists that he thought Shenzhen Children’s Hospital was performing “overtreatment”, and he asked the hospital to fire the chief physician, refund his payment, plus a reparation of 100 thousand *yuan*. Both local and national media covered the story, and many condemned doctors for blackmailing patients for money. However, in a few days, Mr. Chen realized that actually the eighty-cent pill did not fully address the medical concern, and he went to a third hospital and finally accepted doctors’ advice. The physician at Guangzhou who prescribed the eighty-cent pill also made a disclaimer saying he had never told Mr. Chen that the pill could permanently cure the disease. One month later, Mr. Chen wrote an apologize letter to Shenzhen Children’s Hospital for defamation. Unfortunately, in comparison to the large amount of news stories reporting Mr. Chen’s complaint, fewer reports covered the follow-up issues and Mr. Chen’s apology. (See <http://news.163.com/11/1029/04/7HGMFVAM00011229.html>).

² “Stitched anus” (“*fenggangmen*”): In 2010, both local and national media covered a story of a Shenzhen family: after giving birth to a baby, a lady felt unusual pain in her body, and she thought that the pain resulted from her anus being stitched closed by health care providers. Her husband told the journalists from the Southern Weekly that he did not give a “red envelope” to bribe Zhang, the midwife in charge, so Zhang stitched his wife’s anus closed in revenge. The initial report described the issue as “midwife stitching patient’s anus closed”, and later, commentaries and comics were made to criticize the eroded medical ethics of health care professionals. Zhang rejected the accusation and argued that she only conducted emergency treatment for hemorrhoids, which was not against medical rules. Zhang sued the family and two local media outlets for defamation, and she won the case: the court requested the defendants to publicly apologize to Zhang, plus a mental compensation of 30000*yuan*. However, while the first half of the story gave rise to a nationwide discussion on the eroding ethics of health care providers, Zhang’s winning the case received much less public attention. A few years later, Chai

tea”³. Each interview participant mentioned at least one of these cases. Celebrity physicians concluded that all the news stories had a sensational title, indicating the health care providers were unprofessional and even unethical. During the process: they either tried to make more money by making unnecessary prescriptions, or took revenge on patients for not receiving extra money. Even though all the health care providers involved in the cases were proven to be innocent in further investigations, the biased stories were influential enough to build a negative reputation of health care professionals. Although not statistically examined, celebrity physicians thought that most people only paid attention to the first half of the story and then rashly believed that doctors were as “evil” as the fallacious reports described. For example, several years after Zhang won the case of defamation, Ling, a female physician who was circulating between the emergency department and the neurosurgery department, still encountered patients who used the fabricated story to blame physicians. Ling was very frustrated when she learned the patient’s family members were worried that she would not treat the patient well when the family members were not present in the operation room, “and they said ‘nobody knows what doctors are doing in the operation room. Like in a delivery room, a nurse could stitch a patient’s anus closed.’”

Huiqun and Xiao Youruo, authors of the first and most influential report, in which Zhang was wrongly accused for stitching her patient’s anus closed, admitted in an interview that they made up the whole story, based on one-sided information and their personal conjecture on the case (See <http://news.ifeng.com/opinion/special/fenggangmen/>).

³ “A urine test for tea” (“*chashui yanniao*”): In 2007, a Hangzhou journalist designed an experiment to examine the medical ethics of health care providers in the city. She went to a few local hospitals and lied to doctors that she had symptoms of urethritis. Being asked to do a urine test, the journalist used a cup of tea as her urine sample. Lab tests suggested the “urine” contained large amount of leukocytes, so she was diagnosed with urethritis. The journalist wrote a long report entitled “inflamed tea, or inflamed ethics”, in which she harshly condemned health care providers for diagnosing “non-existing” diseases only to make more money. Later on, both health care professionals and non-governmental associations for journalists criticized her to be “the shame of journalists.” (See http://www.china.com.cn/review/txt/2007-04/12/content_8102326.htm, and http://paper.people.com.cn/rmrb/html/2007-04/09/content_12768942.htm).

Similarly, after the “eight-cent baby” story was published, Wen, a female doctor from the pediatrics department, noticed significantly more parents of her patients rejected surgery and questioned if doctors made the suggestions only to ask for more service fees.

Besides that, celebrity physicians identified a more horrifying fact from these stories: voices from health care providers were suppressed in conventional media. In the earliest and more influential reports, journalists interviewed patients, patients’ family members, and authorities from health-related bureaus, but little was heard from the health care professionals involved in those cases. Like the case of “a urine test for tea”, “it is common sense to us that machines could not identify whether the sample was urine, or tea, or something else. As long as the sample is different from normal urine, the machine would label it to be inflamed,” said Yuan, a female doctor from the pediatrics department. Similarly, in the “stitched anus” case, Meng, a female doctor from the department of rehabilitation, argued that any licensed physician – it did not have to be an obstetrician – could tell from the patient’s description that the pain was very likely a result from a treatment for hemorrhoids. The “common sense” was not revealed to the public until a large number of physicians nationwide learned the story and protested against the media outlets. “Why didn’t they come and ask us before they published the stories?” This was a common question asked by celebrity physicians. Like other dissident groups in China (Tai, 2006), being suppressed in conventional media had forced celebrity physicians to seek alternative platforms for opinion expression.

Despite the stories that had seemingly hostile attitudes toward health care professionals, news stories with a positive tone also sounded problematic to doctors. Celebrity physicians found news stories emphasizing doctors’ overwork problematic and inherently dangerous. More than three interview participants used the term “moral kidnapping” (*daode bangjia*) to describe the

impact of these news stories on public perception of the roles of health care providers. Wen had identified a typical image of a “good” doctor in conventional media: he/she should have perfect skills, doesn’t like making money, lives a plain life, never rejects patients’ requests, and of most importance, works without rest until the last day he/she could. Qi, a female doctor from the Hospital for Cancer, argued that like people working in other fields of life, doctors are human beings, and they need to be treated as ordinary people, rather than supernatural beings that do not need any material support. They found this kind of positive stereotyping (Seale, 2004) to be dangerous in nature: being labeled as “angels in white clothes” and promoting overworking, celebrity physicians were forced to work overtime while being underpaid. Even worse, once the expectation was not met, both the government and the public would condemn health care professionals for not being ethical.

Overall, celebrity physicians were disappointed with the ways conventional media presented their profession to the public. They argued that, on one hand, biased news stories about medical disputes were problematic, because they first created, and then reinforced, the notion that doctors blackmailed patients for money in disregard of patients’ health. On the other hand, stories appreciating doctors appeared to be friendly, but they were endorsing exploitation in the long-term. This is a vicious judgment, according to most of the interview participants, on health care professionals, who endured an excessively heavy workload, took the risk of encountering rude patients or even workplace violence, and being underpaid. They were disappointed with the fact that few stories had depicted the field of medicine and the life of Chinese doctors in a neutral way, which was a direct cause to patients’ unfair criticism and unrealistic expectations for doctors. To address these concerns, they were motivated to build a desirable discourse about the medical profession.

Conflicts with the government. Social context plays a crucial role in shaping media use because the society creates problems and tensions that need to be addressed via media use (Blumler & Katz, 1975). In this particular case, the unique social context in which celebrity physicians are situated has shaped their social media use behavior. Being closely tied to the government, but being unfairly treated, has resulted in celebrity physicians' emphasis on political issues in their social media use. Yang (2003) noticed that Internet users in China have revealed a considerable number of issues concerning serious bureaucratic problems in the social system, and celebrity physicians' revealing of internal policies and government's lies is a typical exemplar of this argument.

Celebrity physicians complained a lot about their patients and the conventional media, but they finally attributed the fundamental cause of all their frustrations to the government. Scholars and policy analysts believed the health care reform in China had largely failed (Huang, 2009). Celebrity physicians argued that the government was not willing to admit its fault in causing the numerous problems in the health care system, including high cost, uneven distribution of sources, long waiting time, etc.; instead, authorities used various means to make the public believe it was the unethical health care providers in China who contributed to the unpleasant situation. More than half of the interview participants believed that the government treated health care professionals as scapegoats for the fallacious policies in order to defend the reputation of the government and to maintain social stability. Unfoundedly blaming doctors for being unprofessional and attributing the causes of problems to health care professionals made celebrity physicians very angry. Therefore, they found it necessary to reveal the tricks played by the government. Celebrity physicians argued that the public had the right to know the truth, and of more importance, by knowing the role of the government in regulating the health care system,

the public would not condemn health care providers for being unethical, which could play a positive role in re-building a relationship of mutual trust between doctors and patients.

The government treating doctors as the scapegoat of the failed health care reform.

Celebrity physicians were eager to let the public know the government lied to them on many important health care policies. For example, they thought that health insurance was one of the most important things they expected the public to understand. Even though the coverage of state-endorsed health insurance had reach a large population, the details of the policy was too complicated for an average person to understand.

In early 2013, Yu Ying, the most popular celebrity physician in the nation, posted the “internal policy” of a local hospital. According to the policy, physicians were asked to limit the medial cost of a patient who was enrolled in the state’s medical insurance program (*chengzhen yiliao baoxian*) to a certain cap, and if the cost exceeded the cap, the hospital would dock the salary of physicians to make up for the excessive amount of cost. These rules had been widely implemented in hospitals nationwide. However, the publically disclosed policy stated that medical cost of a certain patient should be paid by the government, which was a reward for joining the state-endorsed health care program and paying insurance fee continuously for a certain amount of years. Celebrity physicians found it to be unfair to these patients, because they were indirectly deprived of the rights to use the latest medicine with minimum side effects. “To me, I would be happy to let all my patients use the latest medicine with minimum side efforts,” Yilin, a female hematology specialist, said, “but, as a mother raising a small kid, a wife contributing 50% of the family income, a daughter financially supporting two elderly parents, and an ordinary working woman who needed to save some money before retirement, I can’t take the risk of being financially penalized every year.” Like Yilin, celebrity physicians were very

unhappy with the internal policies, because they created an ethical dilemma to them. Yuan said, at first, she felt really bad when she made the decision not to prescribe patients the best medicine, but she found herself desensitized later: “at the root, it was the government who didn’t want to pay for the patients.”

Despite the ethical dilemma, celebrity physicians were angry with the government, because the government never disclosed this kind of internal policies endorsed by authorities to the public. In contrast, celebrity physicians noticed that authorities often made announcements saying, “few restrictions had been placed on participants of the state-endorsed health insurance program.” While the government attempted to make himself the “good guy” on this issue, their internal policies that were announced only to health care professionals made physicians the “bad guy” who prohibited patients from receiving good treatment. Celebrity physicians believed government’s lying to the public increased the likelihood of conflicts between doctors and patients: “How can we explain to a patient who believes that the government has never placed any caps on cost?” asked Hong. As Hong and other interview participants concluded, doctors were made the scapegoats of the stingy, but self-defending, government.

In addition to the ethical dilemma, celebrity physicians argued that the uneven distribution of medical resources resulted in patients’ crowded into tertiary hospitals, making them wait for a long time to see a doctor. However, the government ignored this fact, but they blamed doctors for not being nice enough to patients, which again, became an ethical issue of health care professionals. Chao, a male physician from the nephrology department, complained that during his shifts in the outpatient department, he was often too busy to go to the restroom, “I’m not the only doctor who is that busy, same to my colleagues.” Even though overwhelmed by the excessive amount of patients, Chao could understand why many of his patients bothered

to wait for several hours to only to renew the prescription: “Once, I asked one of my ‘regular customers’ to renew the prescription at the community hospital, where she did not have to wait such a long time. But she said, ‘you think I enjoy the hours of waiting here? I have to come and see you, because the medicine I need is not available at the community hospital’. So I learned that even though the government claimed to encourage the use of community hospitals, in reality, it did not allocate enough resources to community hospitals to improve their capability of addressing minor medical concerns.”

Zhu, a male doctor from the general surgery department, mentioned that several months ago, People’s Daily published an article that requested nurses to be “nicer” to their patients. The article said that nurses were often reluctant to answer questions, which caused unpleasant hospital visiting experiences. The article finally argued that nurses should be nicer and more patient with their patients. Zhu said the article was a typical example of treating health care service providers as the scapegoat to shield the structural problem of the health care system. “Why were nurses unhappy when you ask a ton of questions? Because one nurse had to treat approximately 20 patients at the same time.” Zhu said angrily, “If she spent ten minutes answering your questions, other patients wouldn’t have a chance to be treated as well. This is a tradeoff between being extremely nice to a few people and not leaving a simple patient not treated.”

Celebrity physicians believed that, in this case, rather than making moral judgments, the most efficient approach to making nurses nicer was to hire more nurses and to reduce their workload. However, they did not think the government would be willing to increase the budget, and as a result, health care professionals became the persons to blame. Their observations were

true to the facts because the proportion of governmental contribution in medical expenditure has been decreasing in the past few decades (Cao & Wang, 2005).

Violence against doctors. Social media in China had demonstrated its power to pressure the authorities to responsively address the conflicts and attack the criminals (Tai, 2006), and this kind of power is often demonstrated as users setting a public agenda in cyberspace and encouraging a large population to push to government (Hughes & Wacker, 2003). The most urgent thing Chinese celebrity physicians attempted to push the government was to stop workplace violence against doctors.). Like the authors of *The Lancet* editorials, interview participants all expressed their concerns about the potential threats they and their colleagues were facing. Noticing the government being weak and even intentionally blind on these violent cases, celebrity physicians were eager to seek support from the general public via social media to more effectively push the government to address the concern.

Workplace violence against health care professionals was the most severe consequence of the poorly organized health care system, and it was considered a direct threat to the safety of health care service providers. Celebrity physicians were very dissatisfied with how the government dealt with Yi Nao gangs during medical disputes. For example, Chao could not hide his anger and confusion with governmental reactions to these conflicts. Right after the death of a patient, the family members violently threatened Chao in the ward. Even though the administrators did not find Chao negligent in his practice, they still decided to give the patients' family 35000yuan to settle the case. Chao's supervisor described this as an approach to "purchasing peace."

Celebrity physicians who had been involved in handling the conflicts with Yi Nao gangs argued that being weak to Yi Nao gangs could result in a vicious circle: people found threatening

health care professionals to be a good way of getting large amounts of money, regardless of whether the physician was liable in the dispute. Ling and Xue learned from their college classmates who are now working in small cities that Yi Nao had become a new industry in some underdeveloped areas of China: the “leader” gathered a group of people together, threatened hospitals, and got a share of the money they received.

Celebrity physicians argued that being lazy could not sufficiently explain why the government was intentionally blind to issues of violence against health care professionals. After decades of working in the hospital, Lifan, a senior female ultra sound specialist who held an administrative position, identified the inherent political tactics endorsed by the government. “They don’t want to transfer a conflict between patients and the hospital into a conflict between ‘the people’ and the government.” Lifan said this was the ultimate reason the government never truly encouraged local policing forces to protect the hospital and health care providers.

The endless workplace violence could lead to negative social consequences. For example, more than two thirds of the interview participants had observed a worrisome trend that a large number of their colleagues or college classmates were leaving the field due to heavy workload, comparatively low income, and the risky workplace. The hostile working environment had also discouraged high school graduates from applying for medical schools. At least three interview participants mentioned the statistics of 2014 and 2015 College Entrance Examination. The statistics revealed that the admission scores for medicine-related majors were much lower than other popular majors such as Finance and International Trading, indicating a trend that top students were not willing to become doctors. Celebrity physicians were very worried, because this was a dangerous signal to the general public, as fewer and fewer outstanding students would enter the field of medicine. Yuan concluded that if the trend went on, within a few decades, the

public would have a more difficult time competing for rare health care resources, “at that time, the public would suffer most.” Therefore, they would urge the government to be honest and make changes to the current policies, not only for the rights and dignity of health care professionals, but also for the sake of the general public: failing to ensure health care providers a safe and decent life would result in a shortage of physicians in the future.

Why Weibo? Media attributes play a crucial role in satisfying different needs (Blumler & Katz, 1975), and according to the niche theory, media that cover broader niches are more competitive than those that cover small niches (Van der Wurff, 2011). Celebrity physicians selected Weibo as the primary media tool to achieve their goals, because the technical features of Weibo offered them chances to address multiple concerns, such as disseminating information and directly talking to the public. Overall, they found Weibo to be more competitive than other media platforms.

Interview participants did not like the conventional media, because conventional news stories “say what the government wants to say, and conceal what the government doesn’t want to say.” Celebrity physicians noticed that in comparison to asking journalists for help, tweeting by themselves was a much more efficient approach. Their observations echoed the arguments about the Internet in China made by political communication scholars: in comparison to conventional media, the Internet in China is loosely structured and not strictly censored (Stockmann, 2013). Even though the central government had tried various means to guide and control online conversations (Morozov, 2011), health-related topics were not on top of its agenda for censorship (King et al., 2013). The weak governmental control in cyberspace offered celebrity physicians a chance to post information that was against the government and to pursue their political goals.

Enabling interpersonal communication is one of the primary features of social media (boyd & Ellison, 2007), and interpersonal communication was perceived to be particularly important to celebrity physicians. Most of Ling's fans on Weibo were not patients or patients' relatives, and Ling was very happy to find that her fans had a lot of interests in talking about the health care system and doctor-patient relationship. "This was the major difference between a patient and an ordinary Weibo user," said Ling. To celebrity physicians, like Ling, an ordinary Weibo user cared much more than the treatment of a particular disease, and that was an ideal population to celebrity physicians: an ordinary Weibo user was not a patient, but everyone would be a patient sometime in their life. Therefore, in Gan's words, "My purpose is to cultivate an ordinary user into a good patient while that person has not become a patient yet." Celebrity physicians believed that a good patient was expected to acquire basic knowledge about health and medicine, have realistic expectations for doctors, and develop an objective understanding of the current health care system. They all agreed that a good patient could only be cultivated in the long-term, and interpersonal communication, facilitated by Weibo, could help them better achieve the goal.

Overall, social media have empowered users to have more control over content production and social interactions (Ruggiero, 2000). This kind of empowerment was especially important to celebrity physicians, who lived in a country where conventional media are strictly censored, and the conventional media discourse about health and medicine was distorted.

Celebrity physicians' social media use behavior

The second research question was concerned with celebrity physicians' use of Weibo as a tool to rebuild their professional identities and reconstruct narratives about medicine and health care policies. In addition to examining motivations for particular types of media use, the U&G

approach attempts to explore the ways people use media to gratify their needs (Ruggiero, 2000). Answers to RQ1 have revealed the primary purposes of establishing a professional presence was to disseminate health-related knowledge, to reveal the institutional flaws of the health care system, and to rebuild the professional identity of health care professionals. To achieve these goals, celebrity physicians developed different strategies in content production and in online interactions with their social media followers.

To achieve their political goals, activists usually had three approaches: attaching to a particular organization, performing collective actions that directly challenge the state, and voicing their opinions to promote gradual political liberalization (Zheng, 2008). The last option is often most acceptable to cyber activists, because it is low risk and low cost. Celebrity physicians applied the voice option via social media: without imposing direct threats to the government, they constructed counter-narratives to reshape the public perceptions of their profession.

Narratives constructed by celebrity physicians were fully against the dominant discourse. The counter-narrative had two primary themes: 1) the government designed the health care system poorly and devoted little money into the area of public health, resulting in a number of problems, such as high medical cost, limited access to resources, and uneven distribution of medical resources; and 2) health care workers in China had suffered from heavy workloads and unsafe working places and were also the victims of the current health care system. To make their claims plausible, celebrity physicians applied non-sensational rhetoric in their tweets and strategically promoted their opinions. The counter-narrative had presented its power to reshape the public discourses surrounding health-related issues in China, because it had received support from a large number of ordinary social media users outside of the professional circle.

Celebrity physicians constructed the counter-narratives strategically. The first step of building a counter-discourse was revealing the facts that were against the dominant discourse. As they mentioned in the interviews, the dominant discourse about the public health system emphasized doctors' unethical behaviors but ignored the responsibility of the government. The newly disclosed facts covered a wide range of issues in the health care system, such as the internal policies regulating medical cost, administrative orders about hospital management, financial penalties on health care professionals, and government's slow response to workplace violence. All these policies and unwritten rules were rarely presented in conventional media previously, and they were the first-hand evidences showing governments' dereliction of duty in managing the health care system. Celebrity physicians endorsed each other to reinforce the reliability of the information. For example, after Yu Ying published the internal policies about controlling medical cost in the department for which she worked, other celebrity physicians retweeted her post and added comments like "same in my department." A few courageous celebrity physicians took photos of the administrative orders they read at their workplace, hid the key words that might reveal their real identities, and posted them online. The information disclosed by health care professionals became more plausible when it was recognized and endorsed by a large number of celebrity physicians across the nation. The revelation of internal policies could refute the popular themes in the conventional discourse: the government had devoted a lot of money and efforts into the health care system. As celebrity physicians had noticed, the conventional discourse was favorable to the government, because it ignored all the written and unwritten rules implemented in practice. Therefore, to back up their claims that were against the dominant discourse, celebrity physicians believed they should inform the public of these "tricks" played by the government.

In addition to revealing the hidden facts within the health care system, celebrity physicians also actively refuted popular accusations against health care professionals. Rather than making sensational claims, they kept using facts and reasoning to justify their claim. Celebrity physicians often reposted and made comments on the posts from the official press, such as People's Daily and CCTV. They forwarded the posts for the sake of refuting the claims embedded in the original tweet. A typical example was the comments made by celebrity physicians on a post that criticized nurses for not being nice enough to patients. Celebrity physicians forwarded it and argued that it was unfair to blame nurses without mentioning the excessively heavy workloads they had. Again, they used a lot of facts, including the amount of governmental funding and a list of nurses' responsibilities, to justify their claim that the unpleasant medical experiences resulted from the government's unwillingness to hire enough nurses in state-owned hospitals, and blaming individual nurses was unfair. Celebrity physicians reposted a large number of tweets from official accounts that either directly or indirectly criticized health care workers for being unprofessional. Unlike the conventional press that simply made normative claims, such as "doctors should better serve the patients", celebrity physicians justified their argument with solid facts and strong reasoning. Therefore, their argument sounded much stronger and more plausible than the moral judgments made by conventional press. Celebrity physicians understood the difficulties involved in challenging a long-existing discourse and building a completely new one. Therefore, they tried to make their claims impeccable in order to win public support.

Finally, besides using facts and logical reasoning to directly attack the dominant narratives, celebrity physicians reconstructed their personal identities to subtly change the images of the ideal health care worker portrayed by conventional media. Many of them had

encountered identity conflicts: they received criticism from their fans when they posted information about their personal lives that was not relevant to their professional work. Criticizing doctors for enjoying a happy personal life in their leisure time reflected the unrealistic expectations for health care workers. Celebrity physicians viewed this kind of context collapse (Marwick & boyd, 2011) as a chance to alter the traditional notion that a good doctor should not have a pleasant personal life. They purposefully posted stories about their lives outside of workplace on a regular basis. By presenting the different aspects of their lives to ordinary social media users, celebrity physicians expected to present the notion that being a good doctor was not incompatible with enjoying a pleasant private life, and they expected the public to gradually accept the notion by reading their Weibo posts.

Overall, to justify their claims against the dominant ideology, celebrity physicians used three primary strategies: 1) disclosure of information that was not favorable to the government; 2) disputation of popular myths about the ethics of health care workers; and 3) reconstruction of the images of ideal health care professionals. The following sections will discuss celebrity physicians' online activities in more detail.

Content production. The mass media play a crucial role in shaping the public perceptions of health (Dutta, 2009). Health communicators and advocates seek an optimal medium to disseminate health-related knowledge, and the Internet has become a popular channel for health education due to its capacity of reaching a large audience (Johnson & Case, 2012). While the profit-oriented conventional media often dramatized health issues and provided misleading and inaccurate information (Singhal & Rogers, 2004), celebrity physicians turned to Weibo to post health knowledge they perceived to be reliable. Trained in the system of Western medicine, celebrity physicians wrote posts in typical scientific style, and they believed their posts

truly reflected the knowledge of modern Western medicine, which was reliable and helpful to the public.

In an era when people encountered numerous amounts of information every day, celebrity physicians, like Meng, believed the public was not short of information. However, celebrity physicians found that a large amount of health-related information was not reliable. According to Meng, many articles were easy to understand, but they were often biased, out-of-date, and misleading. Celebrity physicians noticed that being misled by not-so-reliable health content had caused a lot of problems, including not following doctor's prescription, misuse of OCT medicine, distrust of doctors, etc. Information from conventional media did not contribute to the formation of a good doctor-patient relationship; instead, celebrity physicians found they further complicated patient compliance.

To provide readers with more reliable information about modern Western medicine, celebrity physicians attempted to avoid the problems they had identified in conventional media stories. They used different strategies to deliver reliable information to their readers. For example, Sue attempted to address the complexity of health-related problems. "I tried to alter many problematic notions created by conventional media," according to Sue. For example, Sue and her colleagues noticed that many of their patients rejected necessary medication, because they didn't want to "overuse antibiotics." Sue argued that numerous articles in conventional media addressing the dangers of overusing antibiotics had contributed to this fear. "Overusing is apparently dangerous. However," said Sue, "refusing to use antibiotics when necessary is even more dangerous." Therefore, to alter the biased public perceptions on antibiotics, Sue wrote an article to provide an objective and more holistic introduction on the use of antibiotics. The article was posted as an attachment to one of her Weibo posts. She did not introduce the mechanics of

antibiotics, because Sue did not think her readers have any interest in learning the mechanics of medicine. Instead, she focused more on the effectiveness and necessity of using antibiotics in certain conditions. Sue concluded that, rather than simply claiming antibiotics were good or bad, offering readers adequate and reliable information was a better approach to helping ordinary people understand health and medicine.

Not all the interview participants wrote essays by themselves, and most of them preferred retweeting articles written by more influential celebrity physicians, especially those with millions of followers. They claimed that they were highly selective in retweeting health-related articles as well. They read the articles carefully first, and then they only retweeted articles from reliable and identifiable sources. For example, Jian usually spent a considerable amount of time verifying the reliability of the articles before she made the decision to retweet: “Step one: I look at the author of the article. The author should be a health care professional, who is currently working in the field, not someone who has been retired for ten years – in many cases, their knowledge needs updating.” In this way, Jian ensured that the author was providing the latest information. The second step was browsing the content. Jian only retweeted content within her area of expertise, because she could tell the reliability of the content. She did not want to take the risk of presenting misleading information to her readers, so she only retweeted those she “had at least 99% confidence in the reliability of the content.” Like Jian, interview participants believed that sbeing highly selective in retweeting content was essential to guard their reputation among their social media fans.

Celebrity physicians had also realized that the tone of the essays contributed to the effectiveness of messages. Tian, a male doctor from the hematology department, argued that the rhetoric of advertisements could be effective in persuading readers, but he never attempted to

adopt this kind of rhetoric in his essays. Tian held the notion that science and medicine were not entertaining in nature, and there was no simple approach to treating diseases. Therefore, instead of using fancy terms and sensational rhetoric, Tian insisted on applying objective and neutral tones when introducing health-related knowledge. He understood his articles were not fun to read, but he believed that was the appropriate way to understand science and medicine. Zhu often wrote articles about new medication approaches, but he tried to keep neutral and objective when introducing these approaches. While introducing the innovations of the new approach, Zhu always mentioned the potential risks and unknown factors involved in the medication process. This could make the new approaches much less “amazing” to readers, but Zhu thought, in this way, his readers could be trained to perceive contemporary medicine more realistically and rationally. “If I allured my readers to try something new without informing them of the risk, what’s the difference between a quack and me?” said Zhu. Celebrity physicians understood their articles did not look fancy, but they did not view it to be a deficit. In contrast, they argued that this was how an article, addressing health-related issues should look: objective content addressing both pros and cons, application of neutral tones, and containing latest update about the medical concern.

Information about the current health care system was another primary category of their Weibo content, especially those about health care policies and the doctor-patient relationship. Celebrity physicians were very dissatisfied with the government for numerous reasons, but they did not think expressing their anger was the only purpose of going online. Of more importance, they attempted to seek support from the public through revealing how the government manipulated the health care system. In Gan’s words, “The government alienated patients and us

through manipulating conventional media content, and I hope what we do on Weibo could let the public come back and stand with us.”

Like the way they produced health-related content, objectivity and a neutral tone were emphasized when celebrity physicians posted information about the government. Criticizing highly sensational and biased news stories in conventional media, celebrity physicians claimed they had tried their best to stay away from that kind of rhetoric. According to Zhu, making up things would probably have an immediate effect, but it could destroy the reputation of the social group in the long- term. Besides that, Chao said there was no need to create fake stories to criticize the government, because “reality is already bad enough.” Therefore, only “truth” was posted online. Celebrity physicians posted the internal policies and administrative orders on health insurance, dereliction of duty of the local authorities in dealing with violence against doctors, insufficient financial support from the government, etc. These issues were not new to people in the professional circle, but they were rarely disclosed to the public before. Meng thought discussing these issues among health care professionals could do nothing other than emotional release, but letting the public know could alter public perception on the roles of doctors. Therefore, Meng and other celebrity physicians often added their own comments when retweeting posts of this kind. For example, when she retweeted a story about the financial crisis at a local hospital in a small town, Meng added her comments, saying, “The best way to solve the problem is to increase financial support.” Similarly, under news stories describing Yi Nao gangs’ activities, Zhu and Xue often wrote, “This is the time when governmental forces should be applied.” Celebrity physicians considered adding comments and repeating their argument in different situations to be a powerful approach to enhancing their political position.

Overall, celebrity physicians attempted to provide reliable information about contemporary medicine and the current health care system in China. Celebrity physicians deliberately avoided the sensational rhetoric used in conventional media stories (Seale, 2004). Treating the information they posted seriously and carefully explained why the Internet had become a more credible information source, compared to conventional media in China (Stockmann, 2013). Providing reliable information in a calm and objective manner had profound meaning. The style of delivering information to the public contributed to the formation of the professional identity of celebrity physicians. Of more importance, by breaking popular myths about medicine and the health care system, they expected to use the alternative information to educate the public with better health literacy and to reveal the institutional deficits of the health care system, which could ultimately repair the deteriorated doctor-patient relationship.

Management of professional identities. Self-expression is one of the primary functions of social media, and self-expression is achieved through various online activities, such as producing new content and responding to other users' content (Weiser, 2001; Shao, 2009). This kind of self-expression had profound implications at both the individual and societal level: it results in psychological empowerment of the individual and encouraged civic engagement in a large population (Leung, 2009). To celebrity physicians, self-expression is important, because it could reshape public perceptions of the health care profession and rebuild their professional and personal identities.

Celebrity physicians posted stories and feelings about their personal lives to fight against two types of stereotypical images depicted by conventional media: either profit-oriented evil figures who treated patients unethically, or supermen who needed no rest or personal life. Celebrity physicians argued that both portrayals distorted the real identity of health care

professionals. Through blending their offline activities and beliefs into their online lives (Weinstein, 2014), celebrity physicians tried to reconstruct a more realistic image of doctors: on the one hand, they self-censored Weibo content to reinforce their identities of being health care professionals; on the other hand, they tried to present their personal identities of being ordinary people.

Assembling a group of social media fans encouraged celebrity physicians to guard their profession. Ling did not present her professional identity intentionally at the beginning. As an ordinary Weibo user, she posted stories about her personal life and reposted interesting posts from other users. Later, she was identified to be a physician when she posted and made comments as an insider on posts about the current health care system. Ling noticed that when her comments were reposted again and again by her followers, more users came and browsed her homepage for more information. The growing number of users coming to her homepage and asking her health-related questions made Ling realize how unique the identity of being a health care professional was: people wanted to get information from her, and what she said could have an impact on the ways a potential patient perceives the role of health care providers. From that time, Ling decided to emphasize her professional identity online. “I intentionally retweeted some posts that I found important, even though I personally didn’t consider them to be interesting,” Ling said. “I’m posting things from a doctor’s standpoint, rather than an ordinary user.” For example, although she was not an expert in treating lung cancer, Ling retweeted an article on this topic, because she felt that lung cancer had become a growing concern among the public.

Like Ling, Xue and Chao became more careful with their posts after they obtained a considerable number of social media fans. Chao used to post and retweet causally, and later, he noticed that he had posted a lot of “silly stuff”, such as astrology, cats’ pictures, etc. He

understood that some of the silly things, such as astrology, were against his profession, “If I performed like a teenager, nobody would consider me to be a trustworthy doctor.” As a result, Chao became pickier on the content he posted and retweeted. Similarly, Xue used to make jokes with his colleagues about unusual cases he came up with, but when he realized that some of his followers could be his potential patients, Xue found sharing the jokes with the general public was not appropriate. Because nobody would like to be indirectly laughed at by a doctor, Xue understood that, even though he did not mean to laugh at any particular patient, the jokes he posted could damage the reputation of health care professionals. “Since the end of last year, I’ve never posted any original jokes about what I saw in hospitals anymore,” said Xue.

Several celebrity physicians experienced a conflict of their professional identity and their identity as an ordinary person. They were being criticized and even mocked when people found what they presented online was not consistent with the perceived identity of a doctor. However, celebrity physicians viewed this kind of context collapse in social media (Marwick & boyd, 2011) as a chance to reclaim their identities (Shao, 2009) of being ordinary people. For example, Hong was recognized as a makeup guru before being labeled as a celebrity physician. However, after being recognized as a physician, Hong received some criticism from her Weibo followers about the hobby: they couldn’t accept the fact that a doctor spent a lot of time and money on cosmetics. She received comments such as, “Why don’t you save the time spent playing with cosmetics to help your patients”, “What a rich doctor! She must have ‘robbed’ a lot of money from us to buy high-end cosmetics”, and “Feeling shame for a doctor who thinks about makeup all the time, but not her profession.” She admitted that to avoid receiving mean comments, she lowered the frequency of posting such content for a few weeks. However, she changed her mind soon: “There is nothing wrong with a doctor to spend the money she legally earned on something she

enjoys. Trying and writing reviews for latest cosmetics during my leisure time is not incompatible with being a good doctor.” Hong decided to post content about cosmetics as usual. Hong still received mean comments, occasionally, but she mostly ignored these comments. Hong hoped that openly presenting her personal interest to the public could alter the unrealistic expectations for health care professionals that was endorsed and promoted by conventional media: a good physician was often depicted like a machine with no personal life, which was not a desirable identity to celebrity physicians.

Correcting media narratives. To further repair their professional reputation, celebrity physicians tried to act in a collective manner when facing certain crises that might destroy their reputation. Like Twitter, Weibo provided celebrity physicians with an alternative setting to enhance their feelings of belongingness to a social group. In other words, engaging in certain kinds of cooperative activities satisfied users’ needs for being connected and involved in a community (Chen, 2011). Of more importance, this kind of collective efforts is inherently political, which attempted to pressure the government and conventional press to make changes to the current situations. Like the way Weibo facilitated the protests against the PX Project in Xiamen in 2007 (Qiang, 2010), celebrity physicians’ online activities predicted a rising force in the political life in China.

Celebrity physicians found that in comparison to conventional media, Weibo was a more efficient medium for them to have their voices heard. More than half of the interview participants mentioned two recent cases that showed the power of celebrity physicians in cyberspace. They were proud of the collective efforts of celebrity physicians and their fans, because these cases “had the same beginning as cases such as ‘eighty-cent baby’ and ‘stitched anus’, but health care professionals were no longer as vulnerable as they were during the pre-social media age. Even

though conventional media had established official accounts on Weibo, celebrity physicians believed that in cyberspace, conventional media were no longer dominant enough to conceal the voices from ordinary health care professionals.

In 2014, a news story, entitled “Owing surgical fees, a patient’s skull was taken off and was not put back for more than one year”, was published and also quickly spread on Weibo. According to this story, a patient’s skull was taken off during an operation, but more than one year after the operation, he still did not have the skull put back. The story indicated that the skull was not put back because the patient was not able to afford the medical cost. In the absence of formal organization tools (Bimber et al., 2009), celebrity physicians were mobilized to refute the claims made by the story. Wen noticed the article intentionally misled the public into believing that the surgery took off the patient’s skull to kidnap for money, but actually, in some situations, surgeons had legitimate reasons not to put the skull back. Wen and Jian soon identified that several big names had written articles to explain the health-related issues involved in the misleading article, and they decided to retweet them to magnify the voices from their peers. In a few days, the original report was deleted quietly. Celebrity physicians considered it to be a minor success for all the health care providers, who devoted their efforts to prohibit the made-up story from further destroying the reputation of health care professionals.

Celebrity physicians had a bigger success when they reacted to an “intentionally manufactured” news report about the death of a new mother in Henan in 2015. After a patient died of amniotic embolism, her family members requested local journalists to report the case. The original report included typical elements that implied how doctors and nurses treated the patient carelessly: the patient “didn’t have any problem before entering the delivery room” but was found dead with “blood in her mouth”; patients could not find doctors and nurses afterwards;

the hospital refused to talk to them, and so on. Xue and Ling said that the depictions of “cold-blooded doctors and nurses” reminded them of the stories about the “stitched anus” and “eighty-cent baby”. Celebrity physicians and their fans quickly attacked the misleading report. The flexibility of the Internet mobilized a decentralized and loose network of users to engage in collective actions (Bimber et al., 2009). Celebrity physicians first pointed out the apparently inaccurate information in the news report, and then they requested local journalists further investigate the whole case before making the judgment. After confirming the fact that the patient died of amniotic embolism, a few big names wrote articles to introduce the danger and high death rate of amniotic embolism. Both Xue and Ling joined their peers in retweeting these articles. Within a few days, the patient’s family apologized for wrongly accusing health care professionals and for encouraging journalists to fabricate the sensational news story. Gan, a female doctor from the general surgery department, concluded this was a sharp contrast in comparison to the notorious cases in the early years when doctors did not have a chance to defend themselves until “everyone had drew the conclusion that the doctor was unethical and even evil.”

In these cases, celebrity physicians achieved their political goals through their online activities: news outlets quietly deleted the misleading report, and the patients’ family was pressured to apologize for wrongly accusing health care workers. In comparison to the days when journalists “interviewed everyone but health care professionals”, celebrity physicians found their voice much easier to be heard on Weibo. This kind of empowerment was achieved through social media’s technological feature of facilitating highly personalized content production (Weiser, 2001; Diamond & Plattner, 2012). Without gatekeepers, who were in accord

with the government, content produced by celebrity physicians could easily spread to a large population.

Traditional Chinese Medicine, a risky topic to discuss. Since the late 1800s, there has been ongoing debates surrounding TCM, and modernists and the public disagreed on the use or abolishment of TCM (Scheid, 2002). The trend is also observed on Weibo in the contemporary context. Celebrity physicians who had talked about TCM on Weibo found TCM to be risky topic to discuss because a considerable portion of their followers disagreed with on this issue. The conflict between scientific knowledge and public perception of TCM reshaped the ways in which celebrity physicians carrying out conversations on Weibo.

Trained within the conventional medicine system, celebrity physicians insisted conventional medicine to be the optimal choice for the general public. Some of them considered TCM was so dangerous that it should be abolished immediately. Some had a milder attitude, arguing that, although not scientifically tested, people could carefully try “mature and safe” formulas that had been proven to be effective. The radical group was more likely to publicly criticize the use of TCM, and the mild group often decided to keep silent on controversial issues. Nevertheless, both groups did not hesitate to stand out and criticize some seemingly problematic use of TCM. Like the modernists in history (Andrews, 2013), celebrity physicians faced tremendous challenges from ordinary social media users.

Celebrity physicians believed that as a cultural product, TCM created many myths about health and medicine, which in turn, distorted public perceptions of conventional medicine. For example, Tu had noticed a considerable number of patients refused to accept necessary chemotherapy, and instead, they applied TCM formulas, which appeared to be much less reliable from the conventional medical perspective. Tu tried to persuade these patients into applying the

conventional approach, but a considerable portion of the patients firmly believed that in comparison to chemotherapy, TCM had fewer side effects and could be more effective in the long-term. “I found all my text-book knowledge useless at that time,” said Tu. Therefore, celebrity physicians attempted to alter the public perceptions of TCM with their Weibo posts.

Ling and Zhu were strongly against the use of TCM. Rather than being calm under most circumstances, they often became excited and angry on the issues about TCM. Most of their tweets about TCM had a consistent theme: stop using TCM. In the interviews, Ling and Zhu better interpreted their attitudes toward TCM: they were not against TCM per se or the study on TCM, but they strongly discouraged the public from using TCM, because ordinary people were not able to evaluate the potential risks of TCM. Zhu argued now that conventional medicine had developed safe and effective approaches to treating diseases, it was not wise for the public to try TCM approaches that were not rigorously tested. Ling said the primary reason of her to be against the use of TCM was, many quacks designed unreliable formulas by themselves and deceived the public by labeling them as traditional TCM formulas. “I’m not saying TCM is all bad, but so many ‘bad’ things are promoted in the name of TCM,” according to Ling. Therefore, to make things more straightforward, they discouraged all types of TCM use in their tweets.

Celebrity physicians often received harsh criticism from those who disagreed with them. Zhu called these people TCM fans. Zhu and Ling’s radical attitudes made TCM fans angry, and some of them often initiated debates with them. They did not have time to respond to all the criticism, but debates often took place right after they posted a tweet. The focus of their debates often fell into the perception of TCM as a cultural heritage. Zhu noticed that TCM fans usually insisted that TCM was a cultural product that had been used for hundreds of years, and “abandoning TCM means abandoning our culture.” He found it was frustrating to persuade these

people, because they were apparently talking about two different things: “I did not intend to deny the fact that TCM was a cultural product, but what I’m saying was, as a medical approach, use of TCM should be discouraged.” Conversations with TCM fans often ended up with a situation like howling at the moon, and Ling realized she could do little to change the minds of keen TCM fans. Nevertheless, Ling and Zhu kept criticizing TCM, regardless of the unfriendly comments they received.

Overall, the debates between celebrity physicians and their pro-TCM fans reflected a conflict between conventional medical practitioners and the general public, which was identical to the conflict between modernists and the general public in the early 1900s (Scheid, 2002). The conflict became more prominent over the past few decades with a growing sense of nationalism among the public (Andrew, 2013). Interview results suggested that in addition to the knowledge gap between celebrity physicians and their social media fans, different ways of categorizing TCM was another important factor contributing to the conflict: while celebrity physicians emphasized the medical aspects of TCM, ordinary users inclined to view TCM as a cultural product. Carrying out dialogues without reaching a consensus on this fundamental issue reflected a shallow form of participation in social media activities (Ward & Gibson, 2009).

Gratifications obtained from being celebrity physicians

The third research question inquiries into celebrity physicians’ gratifications obtained from their social media activities. The U&G approach attempts to study the consequences of media use behavior, and the gratifications sought do not always predict gratifications obtained from media use (Katz et al., 1973). Overall, establishing a professional presence and interacting with ordinary social media users was a pleasant experience to celebrity physicians. Attracting a

group of social media fans increased their influence as health care professionals, and celebrity physicians believed their efforts online had been partially rewarded.

Their efforts being partially rewarded online reflected two popular theses describing the impact of media technologies on social change. Receiving positive feedback from their fans and slightly altering the conventional media discourse echoed the ideas of media determinism and cyber-utopianism, which argued that new media technology, such as the Internet, inherently plays a positive role in promoting freedom (Diamond & Plattner, 2012). In contrast, celebrity physicians noticed they could do nothing other than emotional release in many cases where the government took actions to suppress their speech online, which echoed the pessimistic point of view (Morozov, 2011). The phenomenon reflected the dual characteristics of the media system: it has the potential to reshape public agenda and challenge the dominant social and political institutions (Tai, 2006), but they are vulnerable to the impact of political power (Lei, 2011).

Rebuild a relationship of trust and alter public opinions. By posting health-related information and expressing opinions on the health care system, celebrity physicians had received tremendous support from their social media fans. They argued that the support from fans suggested the building of a relationship of trust between doctors and the general public, and being liked by their fans, in turn, encouraged them to produce more high-quality content. This kind of desirable outcome was achieved through personalized content production and online interactions, which was facilitated by the technological features of the Internet (Ruggiero, 2000; Diamond & Plattner, 2012).

Celebrity physicians felt that fans' greetings and responses to individual health care professionals were a great comfort to them. They viewed these responses as the due rewards to their hard work and the compensations for being treated unfairly in their professional career. For

example, Yuan thought that sharing stories in her life had made her fans better understand the role of doctors in public life. She often wrote tweets listing what she had done during a night shift, and many fans were astonished how busy a doctor was during a night shift, “I now understand why doctors answer questions super concisely.” Later, some fans would write things like “take care of yourself”, “don’t make yourself too busy” in the comments, which made Yuan feel warm. A fan once wrote a comment under a tweet Yuan posted late night: “You don’t have a night shift tonight, so don’t stay online any more, go and get more sleep.” Yuan felt her effort was rewarded when fans wrote that they would ask their family members not to bother doctors with unnecessary issues because “doctors are really busy; we should give them enough time to help other patients.” Yuan believed that, at that time, she and her potential patients had friendly conversations, on the basis of which they could build a relationship of mutual understanding.

Even though not statistically proven, celebrity physicians noticed that after a few years of speaking for themselves, more people had identified the government’s dereliction of duty in managing the health care system, a fact that had been concealed by the government for years. “If you read the comments and reviews on medical disputes published a few years ago, you would find the vast majority of them ended up with a conclusion such as ‘the unethical/profit-driven doctor caused the dispute,’” Qi said, “but recently, more people began to criticize the government and push them to play a more active role.” She was pleased to learn a considerable portion of her fans attempted to promote the following idea: “don’t blame doctors, blame the government”, when they tried to seek solutions to addressing the problems within the current health care system.

At the macro level, social media had demonstrated its impact on shaping the conventional media discourse (Stockmann, 2013). Yuan noticed that most of the news stories about medical

disputes during the first few years of the 21st century were biased, but in recent years, increasing reports had a more neutral stance. The most popular celebrity physicians often accepted interviews from conventional media outlets. Celebrity physicians were excited to see news stories from conventional media quoting tweets from Weibo. The trend echoed the findings in earlier scholarly work on Chinese Internet: by expressing their opinions online, ordinary users were able to shape and even direct conventional media agendas (Tang & Sampson, 2012). Of more importance, presenting their opinions in conventional media could help celebrity physicians reach an even larger audience, such as those from the remote and rural areas, who had restricted access to new media (Stockmann, 2013).

Emotional release. Media systems are powerful and vulnerable: they have the potential to promote social change, but they are vulnerable to the encroachment of political power (Lei, 2011). Weibo has empowered celebrity physicians in a considerable number of ways, but speech on Weibo was suppressed under particular circumstances. When they failed to achieve substantial goals, such as altering public opinion, celebrity physicians were still gratified by social media use: they vented their discontent against the government. Emotional release has always been an important category of media use gratification (Rubin, 2009). To celebrity physicians, emotional release was mainly presented as making complaints together with their fans. Although celebrity physicians did not think this kind of complaint would foster desirable social change, they thought emotional release could help them rebuild a good mood, which was beneficial to their mental health.

Besides the cases in which celebrity physicians had observed desirable outcomes of their online efforts, celebrity physicians found them not so powerful to make significant changes to the public health care system. For example, many of them noticed that even though they and

many of their fans had tried to urge the government to criminally penalize Yi Nao gangs, the government had little interest in implementing the laws. In reality, celebrity physicians were disappointed, because their voices and the call from their fans could do little to push governmental actions. Nevertheless, expressing their opinions on these issues were not fully a waste of time to celebrity physicians. They believed that, even though they received little substantial feedback from the government, openly criticizing it and having their opinions heard made them feel better. Celebrity physicians argued that this kind of emotional release was achieved through retweeting their peers' posts and having dialogues with their fans.

For example, through interacting with her fans and other celebrity physicians, Jian, a female doctor from the pediatrics department, noticed that almost all the hospitals nationwide had surrendered to Yi Nao gangs in medical disputes. She was sad to learn the fact, but Jian thought that learning the sad truth made her feel better when she met her supervisors in real life. She used to think her supervisors and the hospital administrators were so cowardly and stupid that they would give Yi Nao gangs compensations to “purchase peace”, which made her very angry. Then, she realized that all the hospital administrators were “as cowardly and stupid as my employers”, which made her not that angry with them in real life. Because she did not dare to curse the hospital directors in public, using her social media ID to criticize them on Weibo satisfied her need to express her anger. Even though this kind of emotional release did not contribute to problem-solving, celebrity physicians found it helpful to make them build a good mood and a sense of belongingness to each other.

Even though being empowered to voice their opinions, celebrity physicians found themselves to be suppressed when they attempted to promote offline activities. For example, after the revelation of the workplace violence against doctors in Wenling, where a physician was

stabbed to death by a patient, health care providers in Wenling organized protests to urge the government to criminalize Yi Nao gangs' activities and to better protect health care providers. Many celebrity physicians attempted to use Weibo to gather local health care professionals to protest in their cities to support their peers in Wenling. At that time, they received pressure both online and offline. At their workplace, even though having no idea who initiated the offline protests, hospital administrators warned all the health care workers not to attend the protests. On Weibo, celebrity physicians noticed that their tweets gathering protestors were quietly deleted by the website. They had to give up the original plan, and they mourned the victim online by lighting virtual candles instead. The case reflected the power of governmental control in cyberspace: the government had more advantage in controlling the flow of information when they would like to censor and stop the spread of undesirable information (Morozov, 2011). In the Chinese social context, the government is tolerant of celebrity physicians' complaints, but firm on stopping offline demonstrations reflected the information control strategy of the government: the government encouraged the use of social media for the sake of economic development (Zhang, 2005), but it did not expect users to use social media to plan and organize offline activities that could threaten social order (Shao, 2012), such as protests (King et al., 2013). The strategy resulted in celebrity physicians' failures in organizing offline activities that could further extend their influence.

Another form of emotional release to celebrity physicians was reading their fans' responses and, sometimes, joining their conversations. Celebrity physicians had been long frustrated with patients not understanding the role of the government in poorly managing the health care system, but on Weibo, they noticed their opinions were echoed by a considerable number of fans. For example, Wen was very excited to find that her fans had profound

understandings of the institutional flaws of the health care system. She sometimes replied to her fans back and forth to have further conversations about the system, and this kind of opinion exchange made her feel that the public was smart and reasonable enough to sympathize with health care professionals' grievances. Similarly, Xue liked the ways he and his fans had conversations surrounding the health care system: Xue complained about how the hospital administrators poorly running the hospital, his fans complained about the unpleasant medical experiences, such as high cost, and finally, they all drew a conclusion that the government was the cause to all the grievances. Celebrity physicians understood that these complaints could do little to push the government to make changes, but they enjoyed the process, because they and their fans reach a consensus on their perceptions of the failed health care reform. In other words, even though not generating substantial outcome, interactions via social media sites, like Twitter and Weibo, enhanced users' belongingness to each other and created a sense of membership in the peer community (Weiser, 2001; Chen, 2011). This kind of belongingness is particularly desirable to celebrity physicians, because it suggested their fans were willing to side with them and to push the government for making changes.

Online dialogues between celebrity physicians and their followers

The fourth research question is concerned with the content of the online conversations between celebrity physicians and their social media followers. To answer RQ4, the textual analysis examined the tweets posted by "Big-V"s⁴, celebrity physicians who had the most followers and the responses from their fans. Because celebrity physicians and their fans are

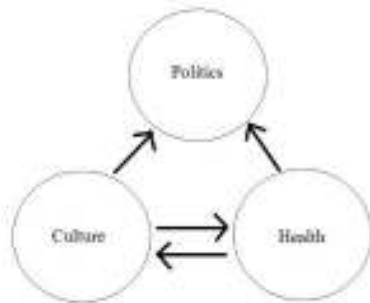
⁴ If users would like to present their professional identity on Weibo, they would be asked to send verifying documents to the website. After the staffs verify their identity, Weibo adds an icon of "V"(which means verified) on user's homepage. Many users presenting their professional identity online are "verified" by Weibo, and those with a large number of fans are called "Big-V"s (accordingly, other "verified" users joke, calling themselves "Small-V"s).

connected via Weibo, their posts and responses reflect the dynamics of their online interactions. The textual analysis attempts to reveal the popular topics celebrity physicians and their fans were talking about and to analyze how they delivered these conversations via social media.

Tweets posted by celebrity physicians covered a wide range of topics, from health-related knowledge to health care policies. Fans reacted to their tweets very differently, depending on the content of the tweet. Nevertheless, these online conversations presented several common features and consistent trends: 1) celebrity physicians had established high credibility in disseminating health-related information; 2) celebrity physicians had negative attitudes toward various kinds of traditions, receiving both support and criticism; 3) regardless of the theme of the original tweet, conversations between fans and celebrity physicians often ended up with a political focus. The strong political focus of these online conversations reflected the psychographics of Chinese social media users: they were critical of the political conditions and were willing to engage in political conversations and actions (Lei, 2011).

Figure 1 illustrates the changing focuses of online conversations between celebrity physicians and their social media fans. This qualitative analysis suggests fans were inclined to shift the focus of conversations to the realm of politics, regardless of the primary theme of the original tweet. As the figure presents, discussions on tweets with an original focus on health and culture often ended up with a debate on the policies surrounding the current health care system. In contrast, fans seldom shifted a discussion on political issues to one on health. Health and culture intertwined with each other in the conversations, especially in those about TCM, in which fans disagreed with each other and triggered heated debates. The following section will analyze the tweets and online conversations by topic categories.

Figure 1 Online conversations



Health. The Internet is not considered an ideal platform for health information seeking, because the information quality is generally low (Walsh-Childers & Brown, 2009), and experts think users very often fail to make the optimal decision, because they have been overloaded with the vast amount of information (Sillence & Briggs, 2007). Realizing users were overwhelmed by confusing and misleading information about health, celebrity physicians tried to provide more reliable information to their readers.

The content of health-related tweets varied greatly across celebrity physicians. This was mainly because celebrity physicians had expertise in a wide variety of areas. Most of them tied the content they posted closely to their area of expertise in their professional life. For example, all the health-related tweets posted by a pediatrician were about common health concerns that children were likely to encounter, and a doctor from a hospital specializing in cancer treatment wrote tweets on a regular basis to teach the public how to identify early symptoms of different types of cancer. In these cases, celebrity physicians played the role of conventional health educators, who attempted to extend their professional services from real space to cyberspace (Johnson & Case, 2012). Even though the Internet had provided users with a diverse information

source other than health care professionals (Case, 2004), social media users appreciated and trusted the information provided by celebrity physicians.

Celebrity physicians used straightforward and descriptive language in these tweets, with few sensational statements, such as “try these foods and you will get rid of diabetes in thirty days”, “you will regret if you don’t try this”, and “don’t miss the top secret about health.” The rhetoric was completely opposite to those in news stories or edutainment messages (Finnegan & Wiswanath, 2008; Singhal & Rogers, 2004). In most cases, the tone of the tweet was dispassionate, which made the tweet look scientific and credible. To address the medical issues clearly to the public, celebrity physicians often used bullet points. A typical tweet of this kind looked like this: “five things you should pay attention to when your kid has hearing problems: 1)...2)...3)...4)...5)...” Because the length of a tweet was limited to 140 characters, celebrity physicians sometimes added additional links to web pages that explained the phenomenon in more detail. In a tweet like this, they used one sentence or two to summarize the theme of the article, and then they provided a link to a detailed introduction of the health-related concern. Because there was no word limit on the external attachment, celebrity physicians could write as much as they would like in the supplementary essay. It was very easy for readers to identify the main theme by reading the tweet only, and then they could make the decision whether to click the link and read the longer essay. A considerable number of celebrity physicians used hashtags to indicate the consistent theme across their tweets. A typical example was the tweets from a nutritionist: all her tweets introducing nutrition-related knowledge had a hashtag named “we should eat in this way.” Using hashtags assembled the seemingly-scattered tweets into well-organized categories, which inherently made the content look more credible to users.

Most of the tweets that had a focus on health did not receive sharp comments from followers. Instead, regardless of what was mentioned in the tweets, fans gave brief, but positive, feedback to the original content. Roughly scanning, the dominant portion of the feedback following these tweets was “great” (*zan*), “thanks a lot” (*duoxie*), “I see” (*dongle*), “re-tweeted” (*zhuanfa*), an icon of a smiling face, etc. Together, with the great amount of positive comments, tweets of this kind were usually re-tweeted most frequently. Take one celebrity physician as an example; most of her tweets were re-tweeted dozens of times, but her tweets that solely introduced health-related knowledge often got re-tweeted more than one hundred times. By re-tweeting, fans helped celebrity physicians disseminate health-related knowledge to a larger population.

Fans expressed gratefulness to celebrity physicians for sharing the information, but in most cases, their comments did not initiate new conversations. Unlike the popular tweets that, sometimes, triggered heated debates, tweets with a pure health-related focus appeared to be most effective in building a good relationship between celebrity physicians and their social media fans. The communication paradigm surrounding health-related tweets was mainly uni-directional, in which celebrity physicians disseminated the content and fans accepted them without questioning the reliability of the information. Very few celebrity physicians were challenged or criticized by their social media fans. This reflected a typical imbalanced relationship between experts and the public (Parrott, 2004): celebrity physicians, who were experts in particular fields, had more power in guiding individuals’ informed decision-making about health, and their fans returned to the position of the passive patients, who simply accepted all the information (Lewis, 2006).

Celebrity physicians had established high reputation among their fans. Even though there has been a global trend that consumers trust the recommendations of friends more than

authoritative sources (Duffy & Thorson, 2009), fans presented a high level of trust in celebrity physicians. Fans often asked celebrity physicians to clarify the confusions they met in real life. Typical question asked by fans included: “I read an article online the other day, and it says mushrooms are bad for health. What do you think?” and “Many people said black onions are good for people with high blood pressure, but I doubt whether this is correct. Is this a rumor?” Some fans would ask a question like: “My doctor said taking an X-ray screening has little negative impact on health. Is this correct? If you think X-ray screening is safe, I will go and do it.” These questions suggested that fans had received a lot of information offline, but they trusted celebrity physicians more than other information sources, and it seemed they relied on celebrity physicians to make important decisions.

Overall, celebrity physicians and their fans maintained a good relationship under health-related topics. This kind of relationship of trust suggested that, even though the public had been largely empowered in the social media environment to challenge the doctor-patient hierarchy (Lewis, 2009), celebrity physicians’ fans inclined to keep the traditional relationship between experts and the public.

Culture. Cultural context is one of the factors contributing to the social origins of media use. The most prominent theme in this category was the tweets about Traditional Chinese Medicine (TCM). In most of the tweets, celebrity physicians used knowledge from conventional medicine to inform the public of dangers of the TCM. However, a considerable number of fans refuted the claim. Very few of the fans took a neutral stance; instead, both groups were at the extremes of each end: one group considered TCM to be so bad that it should be abandoned immediately, and the other group valued TCM as a cultural heritage that was highly effective in addressing medical concerns. The heated debate surrounding TCM suggested that, even though

users had shared interests in political deliberations, online discussions could reproduce and magnify cultural disparities (Papacharissi, 2009). These disparities and hostilities could be a threat to the popularity of celebrities (Galbraith & Karlin, 2012), but they did not prohibit users from engaging in conversations about cultural and civic issues (Papacharissi, 2004). In terms of the content of these conflicts, the debates over TCM reflected the tension between a Western style of thinking (Black, 1988) and the public's strong sense of nationalism that attempted to resist the influence of foreign culture (Ong, 2005).

The conflicts between celebrity physicians and a considerable portion of their fans were similar to what happened between modernists and the public in the early 1900s: while Western-style doctors tried to abolish TCM from the conventional medical perspective, the public insisted on keeping TCM due to its cultural implications (Andrew, 2013). Celebrity physicians on Weibo did not appear to be more successful than their ancestors, and they were not persuasive enough to discourage their fans from using TCM. The difficulties celebrity physicians were facing reflected a conflict between their professionalism, grounded in the Western tradition and deeply rooted cultural traditions in China (Sheid, 2002). Facing the conflict between their profession and the cultural tradition, celebrity physicians chose to guard their profession at the risk of annoying their fans.

Like their ancestors, celebrity physicians did not conceal their antipathy against TCM to their audience. In comparison to the neutral tones they used to post health-related knowledge, some of their tweets about TCM were highly sensational. Celebrity physicians very often failed to keep calm and neutral, which was almost never found in their tweets introducing conventional medicine knowledge and talking about health care policies. The following tweet was highly representative:

“I’d like to do something helpful to you on this rainy day. You may choose to accept TCM injections, ok, that’s your choice. But if you have children, I’d still suggest: if doctors prescribe TCM injections for your children, you should reject it! I know many of you may say why many doctors believe TCM to be effective or at least harmless...I have nothing more to say on this. Anyways you should read the article (link): how dangerous TCM injections are.”

Another celebrity physician wrote a tweet to reply one of her fans, who asked whether a particular type of TCM pill was effective:

“Many years ago, when I knew little about this TCM pill, I would recommend my anxious patients who needed immediate comfort to use it as a placebo. Now, I don’t even use it as a placebo. It’s interesting to find that on the instructions to the pill, the pill is so perfect that it has no side effect. Which artist created it?”

Celebrity physicians sneered at TCM, either directly or indirectly, in these tweets. The sensational statements suggested that celebrity physicians considered TCM to be against their profession. Other tweets often began with claims such as: “TCM will certainly be abandoned by civilization”, “say no to TCM injection”, “TCM is no more than placebo”, “be wise and reject the use of TCM – the biggest pseudo-science.” The term, pseudo-science, appeared frequently in these tweets, and celebrity physicians used the term to justify the necessity to abandon TCM.

Conversations surrounding tweets about TCM were full of conflicts, in which supporters and opponents attacked each other in very unfriendly ways. Supporters agreed with celebrity physicians that TCM should be abandoned, and sometimes, they were even harsher than the celebrity physician. Fans echoed celebrity physicians through writing highly emotional statements, such as “why don’t TCM perish”, “TCM is a heretical belief”, “TCM makes we

Chinese stupid.” Even though the tones were strong, these statements did not strengthen the original argument.

Opponents appeared to be more rational and provided more plausible arguments in these cases. Their responses suggested that opponents disagreed with celebrity physicians for two main reasons: from the cultural perspective, TCM was a different way of thinking, which could not be evaluated by scientific procedures; from a health aspect, TCM had helped treat illness under many circumstances. Two groups of fans responded back and forth to try persuading each other, but the conversations usually ended up with mutual insults. Neither of them successfully persuaded the other side, and neither of them was persuaded. They could not reach a consensus, because they were each emphasizing a different aspect of TCM, on the basis their arguments were constructed. A conversation in which both sides were telling their own stories could not promote mutual understanding.

The unfriendly conversations between two groups of fans reflected a discrepancy in cultural beliefs among the fans of celebrity physicians. Most of the fans recognized the contributions made by celebrity physicians in popularizing health-related knowledge, but not all of them shared similar cultural beliefs with the celebrity physicians they followed on Weibo. They challenged celebrity physicians on their perceptions of TCM, even though what they received was usually refutes or insults from other fans. Different cultural beliefs gave rise to conflicts and a large quantity of conversations; however, these conversations were nothing more than emotional release. TCM Supporters used sarcasm to emphasize their arguments, and opponents were only being repetitive in stating their opinions. They both expressed their opinions firmly, but impolitely, and neither of them appeared to have carefully thought of what the other side was saying. Emphasizing their own opinions, while ignoring counterarguments,

resulted in the fact that conversations among fans did not facilitate effective communication; instead, ending up with meaningless insults enhanced the confrontation and misunderstanding between two groups of fans.

In other tweets that involved cultural issues, terms such as tradition, traditional belief, and conventional thoughts were usually associated with negative meanings. Celebrity physicians often attributed the cause of various social problems to “traditions”, even if, in fact, not all that they were criticizing were real traditions. For example, a celebrity physician eagerly wrote a series of tweets to warn her fans of the danger of TCM formulas. One of her major arguments was that the side effects of these formulas were usually not listed on their instructions. While her first tweet appeared to be objective, the celebrity physician could not keep calm in her follow-up tweets. She wrote more tweets to argue against those who did not agree with her, but the focus of their debate quickly shifted to a conflict on different perceptions of Chinese traditions, rather than on TCM. A fan criticized the celebrity physician for being too negative on the traditional medical approach, “Legislation could help improve the situation; if pharmaceutical companies are required to do rigorous tests on TCM and list all the potential side effects, I don’t think there’s anything wrong with TCM.” However, the celebrity physician did not respond to the criticism directly. Instead, she mocked the fan, “If you would like to test the effectiveness of TCM in person, then go ahead. So many cases and statistics still can’t rescue your mind that was brainwashed by traditions.” Her claim was supported by her fans, who were radically against the use of TCM. Many of them even wrote responses, such as “so-called traditions, like TCM, prohibited China from becoming a modern country”, “traditions cultivate stupid guys like you”, etc. Facing these unfriendly responses, the other side of the debate could not give any persuasive arguments, other than insisting on the importance of preserving tradition.

The heated debates reflected an inherent conflict between the notion of professionalism, which was grounded in Western traditions, and the deeply rooted cultural traditions. Ordinary people intend to understand professionals and accept the ideas derived from professionalism if the notion of professionalism is grounded in the culture with which they are familiar (Robbins, 1993). In contrast, the notion of medical professionalism, such as the necessity of doing lab tests and labeling side effects, could not be justified with traditional Chinese values that prioritize experiences to reasoning (Tu, 1996). Therefore, even though celebrity physicians had established high reputation in providing information about conventional medicine, they were not as advantageous when they attempted to use the ideas from conventional medicine to persuade those who were adhere to traditional Chinese cultural values.

Politics. Tweets that emphasized the political realm of social life received a great variety of feedback and initiated debates, constantly. The trend reflected Chinese social media users' strong passion in politics (Lei, 2011) and the profound political potential of social media use in China (Zheng, 2008). The social media site, Weibo, has empowered ordinary users, including celebrity physicians and their fans, to publicly express their opinions on social and political issues (Stockmann, 2013). The content of these tweets could be sorted into two categories: 1) discussions on the health care reform and complaints about the health care system, and 2) discussions on the doctor-patient relationship from an institutional or structural aspect. The former category received homogenous feedback, while the latter often initiated debates. In general, celebrity physicians guarded their profession and argued that the problematic laws and regulations had contributed to the deterioration of doctor-patient relationship.

Celebrity physicians complained a lot about the health care reform and the current health care system, composing the first type of politically oriented tweets. Due to the nature of their

profession, celebrity physicians knew more about the nuances of health-related policies than the general public. Their tweets were helpful to fans from the following aspects: first, celebrity physicians disclosed governmental rules and regulations, which were not widely publicized by the conventional media; second, they interpreted rules and regulations with their personal and professional experience, which was a very different aspect from that of the government. All this information was not available through conventional media. Following celebrity physicians provided fans with alternative information (Stockmann, 2013) and an alternative public agenda (Hughes & Wacker, 2003).

Overall, complaints about the health care system and the government received a lot of support from fans, and fans' follow-up criticism on the government endorsed and reinforced the arguments made by celebrity physicians. However, fans' responses and discussions were lacking depth, and they were highly homogenous. In many cases, fans iterated and re-iterated that they didn't like the government's policies, but they made few plausible explanations why the new policy could make the current situation even worse. These conversations might have given chances for emotional release, but they did not contribute to problem solving: fans complained about the government in different ways, but they did not contribute anything new or helpful to address the concern. In turn, the government tolerated these complaints because they did not initiate offline activities (King et al., 2013) or impose a direct threat to social stability (Shao, 2012). Like blogs, Weibo was a "safety valve" (Hassid, 2012) on public issues.

The second kind of tweets discussed both health care policies and the doctor-patient relationship. Talking about the doctor-patient relationship or medical disputes in tweets easily triggered heated debates, and respondents were often divided into more than two groups. Due to their professional identity, celebrity physicians were mainly on the health care professionals'

side when discussing medical disputes and conflicts between doctors and patients. They supported individual health care professionals, who were involved in these disputes, and they simultaneously blamed the government for doing a poor job in protecting the rights of ordinary health care professionals. However, unlike the first kind of tweets, which received almost one-sided support, these tweets received both positive and negative feedback. Even though fans sided with celebrity physicians on most political issues, they were not a monolithic actor. Instead, like other social forces, they were disaggregated, due to their unique interests and experiences (Young, 2008). In this case, not all the fans agreed with celebrity physicians, because they viewed social problems from different perspectives.

A tweet received more than four hundred responses was a typical example, illustrating the discrepancy between the sub-groups of fans. The controversial tweet was a comment on a news story: prosecutors from a local government helped family members of a patient, who died after giving birth to a child, sue the obstetrician who provided service. However, after reading the complete report on the incident, the celebrity physician realized the obstetrician was not supposed to be liable, because the patient died of an unpreventable disease. Therefore, he angrily wrote that prosecutors, who were representatives of the government, endorsing family members to sue the obstetrician would result in severe consequences: few people would be willing to become obstetricians if they were expected to be liable for unpreventable and untreatable medical concerns. The celebrity physician satirized at the end of the tweet: “If the court finds the obstetrician guilty, then in a few decades, I don’t think there will be any obstetricians in China. Thank you, our ‘great’ government.”

The tweet received responses with distinct attitudes. A large portion of fans supported the celebrity physician’s claim. In addition to clicking the “like” button, they expanded and

enhanced the argument from various perspectives. One of the most popular responses argued the public would be the ultimate victims of the government's actions, "It's fully understandable that fewer people would be willing to be doctors if they were not fairly treated by the government and legislative institutes...but in the future, who can treat our illness?" While the celebrity physician criticized the government from the perspective of health care professionals, fans viewed the problem from patients' aspect. Fans used their own experiences to endorse the original argument made by the celebrity physician, which made the original tweet more plausible.

Another group of fans did not like the argument made by the celebrity physician, because they thought the celebrity physician was backing his colleagues, regardless of medical ethics and the rights of patients. However, these users did not provide plausible arguments; instead, they were more likely to make sensational comments. Typical comments included: "it's ridiculous that doctors don't think they are liable for a patient's death", "why can't we sue doctors for a patient's death", "this is one of the rare situations when the local government does something right", "doctors are normally corrupted, and they should be penalized if their patients die", etc. These comments were not addressing the problem being discussed in the original tweet, but fans used it as a chance to express their dissatisfaction with health care professionals. Similar comments were found in the feedback to tweets, addressing doctor-patient relationship. Regardless of the content of the original tweet, opponents expressed antipathy towards health care professionals, using three main reasons: doctors should be liable if they fail to successfully treat their patients' medical concerns; nowadays, medical ethics had deteriorated, and doctors provided service with poor attitude.

While celebrity physicians did not join fans' follow-up conversations very often, two groups of fans started heated debates by replying to each other's responses. They initiated

smaller conversations under the original post. Fans who were supportive of the celebrity physician often wrote back and forth to argue with unfriendly users. In the responses under the tweet mentioned above, two fans had a conversation for many rounds, although the celebrity physician did not respond to any of them throughout the process:

“A: Doctors are shameless. Why can’t they be punished for their dereliction? The government should be more firm on this.

B: How do you know the obstetrician did not do what she was supposed to do?

A: If she did her job right, why did the patient die?

B: Don’t you know there’re many situations in which doctors could not control? Medicine does not solve all the problems.

A: Doctors are normally corrupted. I don’t think they will treat you carefully if you don’t give them “red pockets.”

B: How many doctors have you met with? Why don’t you believe in doctor’s professionalism? I feel sorry for doctors who had a patient like you.

A: Are you living in China? Have you been to hospitals in China? Does professionalism apply to doctors in China? It’s stupid of you to support doctors. You deserve it if you’re killed by a doctor.

B: If you hate doctors that much, then don’t go and see them when you’re sick.”

They became more hostile to each other as the conversation continued. Due to lack of face-to-face communication cues (Papacharissi, 2004), computer-mediated communication often promoted impolite and unfriendly conversations (Sassenberg & Jonas, 2007). In above example, user A appeared to have a low level of health and political literacy, who was not expected to be highly interested in joining online conversations about social issues. However, the Internet has lowered the barriers to entering a virtuous cycle between political interest, political knowledge, and participation (Muhlberger, 2004). In other words, people, like user A, were more likely to perceive themselves to be knowledgeable about various social and political issues in the mediated environment, which resulted in their higher interest in engaging in public debates. Even though user A did not appear to treat user B’s opinion seriously, at the individual level, he/she could have developed a higher level of interest in political discussions and become mobilized to participate in political actions (Muhlberger, 2004).

Nevertheless, these conversations offered users chances to express their grievances in their medical experiences and revealed the problems of the health care system from the patients' perspectives. Of more importance, this kind of public debate and problem articulation had profound political implications, because the public was encouraged to actively seek solutions to social problems by themselves, rather than passively accepting the government's decisions (Young, 2003).

Political deliberation. Tweets covering the multiple dimensions of health, politics, and culture were often derived from news stories that received much public attention in and outside of the professional circle. During a certain period of time, celebrity physicians re-tweeted and made comments on the same news stories, and discussions surrounding these complicated topics reflected the different positions of celebrity physicians and different groups of fans. Tweets under this category covered a wide range of topics. Most of these tweets shared a similar structure: they were composed of two parts, a link to a news story and a concise comment made by celebrity physicians. In this way, celebrity physicians informed the public of the news story and expressed their opinions on the story to their fans. The unique way of presenting information was facilitated by social media's capability of conveying a huge amount of information, using very limited space (Zheng, 2008). In terms of the content of these tweets, both civil messages that contributed to problem articulation and uncivil messages that were delivered without courtesy or respectability (Papacharissi, 2004) were identified.

A discussion on the pneumonia vaccine was a typical example of the irrationality and entertaining nature of online conversations. A celebrity physician re-tweeted a news story, saying that the municipal government of Shanghai planned to offer free pneumonia vaccines to local senior residents. Following the link to the news report, the celebrity physician wrote that it was

great of the local government to do this, and she encouraged senior citizens to get vaccinated, because pneumonia could be highly dangerous to the aged. The celebrity physician took the chance to inform the public of the danger of pneumonia, and she appeared to have a very positive attitude towards this particular governmental act. However, responses from fans quickly diverged from the original content.

Fans were highly sensitive in terms of the political implications of the news story. One of the fans wrote an angry comment under the tweet: “Why only Shanghai residents? Those who don’t have a Shanghai residency registration (“*waidiren*”) are discriminated against.” The comment received dozens of support, and more fans escalated the seriousness of the problem: “it is a typical form of discrimination based on geographic location”, “this is what our government thinks: Shanghai residents are considered ‘people’, we ‘villagers’ (“*xiangxiaren*”) are not”, “the life of Shanghai seniors is more valuable than other people.” A few fans attempted to remind these angry users that the free vaccine was provided by the municipal government of Shanghai, which was not supposed to be liable to all the citizens nationwide. However, these comments received nothing more than satire and verbal abuse from other fans. As the conversation went on, fans kept sharing their personal experiences of being treated differently from local residents when they didn’t have a legal residency registration in the city where they lived. The second half of the conversation went beyond the criticism of the municipal government of Shanghai, and they focused more on the differences in terms of policies between big cities and small cities, between the urban and the rural, and between the eastern coast and western inner land.

Like most of the discussions on governmental policies, fans were highly critical and resentful. However, besides sharing their personal experiences and expressing their dissatisfaction with the government, very few fans tried to discuss the solutions to these social

problems. One user wrote a long and thoughtful comment to answer the question why “only senior residents in Shanghai could get the free vaccine”, in which the user linked the problem to the lack of medical resources nationwide. Unfortunately, the comment didn’t receive any feedback. Satirizing the government and verbally abusing those who were against them did not contribute to problem articulation in this case. Conversations among fans reflected that instead of articulating social problems rationally, the majority of users made comments on news stories only to express their dissatisfaction with the government. These antagonistic, superficial, and sometimes, impolite messages did not directly promote the civil discourse in cyberspace (Papacharissi, 2004).

The example demonstrated the fact that fans were highly sensational when they talked about the inherent institutional and structural problems imbedded in news stories. While a large number of tweets on news stories received comments, like the one about pneumonia vaccine, occasionally, fans deliberated the problem in a calm and rational manner.

The fate of a tweet about the window period of AIDS was completely opposite to the one on pneumonia vaccine. More civil messages (Papacharissi, 2004) were identified from the conversations surrounding the topic. The news story was: a kid was infected with HIV after she accepted a blood transfusion, and later, medical agencies identified that HIV was not detected before the blood transfusion, because the donor was within the window period of AIDS and never noticed being infected at the time he made a blood donation. Following a link to the complete news story, the celebrity physician wrote:

“Even though careful tested, we still can’t detect HIV in the blood donated by a person who got infected the day right before the donation. So the only thing we can do is to try not to do blood transfusion unless necessary. Modern medicine is not that powerful. In terms of the

uncontrollable medical risks, I think we should expand the coverage of health insurance to share the risk among the general public, otherwise victims could do nothing other than being involved in endless disputes.”

Much fewer fans criticized the government or medical institutes this time. One of the fans attempted to question the role of the state-owned hospital, but he asked a very legitimate question: “HIV can’t be tested within three months of infection, so why do we have to use blood that was donated within three months? If we keep all the blood for three months first and then test HIV again before the transfusion, HIV can be detected. Why not?” In comparison to the satire and verbal abuse written by fans in the pneumonia vaccine case, this question sounded much more meaningful in addressing this particular public concern. Before the celebrity physician had a chance to answer the question, another fan wrote: “I did some research online, because I had the same doubt. Technically, blood can be preserved for up to 35 days, so we can’t keep it for three months and test for HIV afterwards. Modern medicine can’t detect HIV during the window period. This is the cause of the tragedy.” The answer was supported and liked by more than one hundred fans. A considerable number of fans had more questions on the policies of blood transfusion and the liability of hospitals during blood transfusion, and their questions were mainly answered by other fans throughout the conversation. Angry posts, such as “The hospital is not liable, the government is not liable, and the Red Cross is not liable, then who should be accountable for the girl’s tragedy?” received neutral and calm comments, such as “No one is liable. This is limitation of modern medicine. It’s sad, but we have to admit we are vulnerable when facing viruses like HIV.” Overall, fans went beyond simply echoing the argument made by the celebrity physician or condemning the government, but they had profound dialogue on the health-related policies surrounding the issue. A considerable number of fans

thought further on the case, and they made suggestions on how the government could better avoid collecting HIV-infected blood from donors. These conversations not only conveyed health-related knowledge, but also delivered public articulations on the health care system. The trend was also found in similar tweets that introduced very rare health problems.

Discussions surrounding the blood transfusion case were completely different from those in the pneumonia vaccine case. The possible explanation was, to what extent fans were familiar with the political theme embedded in the tweet had significant impact on fans' reactions. For the tweet on pneumonia vaccine, fans were very familiar with the regional differences in health-related welfare and the urban/rural dichotomy in many realms of social life. The tweet reminded them of the unpleasant experiences they had in real life, which made them angry enough to criticize the government immediately. In other words, the unobtrusive issues provided fans with a chance for emotional release. While the conversations were filled with anger, there was no space for calm and serious articulation on the original issue. From the perspectives of celebrity physicians, they did nothing more than offer their fans a chance to express their dissatisfaction with the government.

Accordingly, fans were much calmer, and they were open to new ideas when facing obtrusive issues, such as the window period of HIV diagnosis, because they had little knowledge or experience with the issue in their daily lives. In these cases, they didn't have any personal stories to share, so they could focus more on the health-related elements embedded in the story. As a result, fans were more likely to take a neutral stance and look at the problem from different perspectives, initiating a small-scale deliberation. In these cases, celebrity physicians were more successful in bringing about a news story, introducing health-related knowledge, and facilitating problem articulation.

Opinions on these issues varied greatly by the features of the news event, but conversations usually followed a certain flow: fans usually began the discussion on the health-related aspect of the issue, gradually shifted the conversations towards the inherent cultural elements, and finally, focused the conversation on the political realm, either proposing legislation as a solution to the problem or blaming the government for dereliction of duty. While access to and chances of civic engagement were highly restricted in conventional media or governmental websites (Hughes & Wacker, 2003), celebrity physicians' posts offered users a precious chance to be involved in civil activities, such as political deliberation, and this kind of political deliberation, conducted in reciprocal manner, could lead to greater political participation (Papacharissi, 2009).

Social media users' motivations for following celebrity physicians

Survey methodology is used to answer the last three questions. The mean, standard deviation, frequency, and percentage of the important survey items are listed in Appendix B. The fifth research question is concerned with the factors that drove social media users to follow celebrity physicians. Because media use is highly selective, and social media offered users even more freedom to determine what content to consume (Ruggiero, 2000), it is worthy of exploration to see what drove fans to celebrity physicians' homepages. Although motivations for Internet use features social interactions and personalized content production (Rubin, 2009; Shao, 2009), the primary media use motives of fans were information-oriented.

Survey respondents (n=223) were asked to describe their initial motivations for following celebrity physicians, using 5-point Likert scale questions. Results suggested that fans were most likely to follow celebrity physicians for the sake of acquiring health-related knowledge, building a healthy lifestyle, and seeking help to address particular diseases. Overall, these motivations

could be categorized as the informational use of social media (Weiser, 2001). Seeking information from celebrity physicians' posts reflected the public in China treating the Internet as a credible information source, compared to conventional media (Stockmann, 2013). Users' motivations for following celebrity physicians were primarily information-oriented, but entertainment was also another important reason for following celebrity physicians.

Table 5 Social media use motivations

	Mean	SD
To obtain news	2.83	.89
To obtain general health-related knowledge	3.34	.86
To obtain information about particular diseases	2.89	.90
To find different opinions	2.78	.92
To build a healthy life style	3.26	.87
To release emotion	2.23	.72
To seek help to address particular diseases	3.58	.73
To entertain	3.25	1.05
To expand personal network	2.71	.81

Gratifications obtained from following celebrity physicians

The sixth research question is concerned with social media users' gratifications obtained from following celebrity physicians. Survey respondents were asked to use a 5-point Likert scale to indicate their gratifications obtained from following celebrity physicians. The primary gratifications obtained were slightly different from their motivations. The most popular gratifications included: received alternative information that was not available via conventional media channels (Mean=3.37, SD=.84), received a lot of news in the realm of public health (Mean=3.63, SD=.77), and learned health-related knowledge (Mean=3.47, SD=.80). These

gratifications echoed fans' motivations for following celebrity physicians: they acquired knowledge and information as they expected.

Short-term impact

The last research question inquiries into the influence of following celebrity physicians on users' perceptions of medical, political, and cultural issues. Scholars have predicted that the primary consequence of media use is change in attitudes and opinions (Rubin, 2009), and attitude change was a desirable outcome expected by celebrity physicians. Therefore, examining fans' perceived attitude not only describes the outcome of social media use, but also predicts the effectiveness of celebrity physicians' online activities. Because it was hard to examine two types of attitudes in one survey, i.e. fans' opinions before and after following celebrity physician, the study attempted to examine perceived attitude change through analyzing the attitudes reported by fans and non-fans within an identical population.

208 respondents indicated to what extent they agreed with the following statement, "following celebrity physicians makes you better trust health care professionals in real life". The mean score for the 5-point Likert scale questions was 3.32 (SD=.77), indicating a perceived attitude change by fans. Time spent following celebrity physicians were positively correlated with trust in health care professionals (.15, $p=.03$).

People's perceptions of knowledge and social relations are affected by media use (Rubin, 2009). Therefore, following celebrity physicians is expected to have certain impact on their fans' attitudes and behaviors. Respondents were asked to indicate the number of celebrity physicians they followed on Weibo. The respondent did not have to answer questions about the online interactions with celebrity physicians if his/her answer to this question was 0. This group of participants was categorized into the "non-fans" group. A preliminary cross-tab suggested that

fans and non-fans were identical in terms of age, gender, educational level, and general social media use. T-tests were conducted to see if there were significant differences between fans and non-fans.

Fans (Mean=3.71, SD= .57, N=223) were slightly more likely to trust doctors than non-fans (Mean=3.45, SD=.67, N=168) ($F=6.62$, Sig=.01, $t=4.12$, $df=389$, Cohen's $d = .42$, partial eta squared = .04). In terms of the attitudes towards the claim, "health care professionals in China are not ethical", non-fans (Mean=2.77, SD=.68, N=168) scored slightly higher than fans (Mean=2.55, SD=.53, N=223) ($F=7.34$, Sig=.007, $t=-3.55$, $df=389$, Cohen's $d = .36$, partial eta squared = .03), indicating a slightly more negative attitude towards doctors. Another significant difference between fans and non-fans was their attitudes toward the statement, "the government was primarily responsible for the current problems in the health care system." Fans scored higher than non-fans on this question. (Fans: Mean=3.35, SD=.71, N=223; non-fans: Mean=3.21, SD=.64, N=168) ($F=4.40$, Sig=0.04, $t=2.10$, $df=389$, Cohen's $d = .21$, eta squared = .01). These differences suggested that through following celebrity physicians, social media users developed a more positive attitude towards health care professionals in China, and they became more critical of the role of the government in managing the public health system.

No significant differences were identified between fans and non-fans with other variables, such as attitudes toward TCM. On average, respondents had a neutral to active attitudes toward TCM. The trend suggested that celebrity physicians were effective in influencing their fans on issues such as the doctor-patient relationship and the public health policies, but they did not effectively discourage their fans from using TCM as they expected. In terms of the perceptions of the doctor-patient relationships, respondents indicated that they were aware of the deteriorating state of the doctor-patient relationship in China, and they had a medium level of

trust in doctors (“In most cases, I trust doctors when I visit doctors”, Mean= 3.60, SD=.72).

Score of these variables are listed in Appendix B.

Conclusion

The project used interview, textual analysis, and survey methodologies to explore the celebrity physician phenomenon in China. Interview results suggested that celebrity physicians were motivated to establish their professional presence on social media because they observed a low level of health literacy among their patients, they were dissatisfied with the ways conventional media depicted their profession, and they had potential conflicts with the government. Accordingly, they expected to use Weibo to disseminate medical knowledge in order to increase public health literacy, to correct conventional media narratives about the discipline in order to reconstruct their identities of being ethical professionals, and to disclose the institutional problems of the health care system in order to seek support from the public and push the government to make changes. To achieve these goals, celebrity physicians were highly selective in producing content that was relevant to medicine and the public health system, they initiated public debates about the health care system, and they often collectively criticized and attacked the conventional media narratives during certain crises. With these approaches, they created counter-narratives that challenged the government’s claims about the health care system, and they created alternative narratives about health and medicine that they considered to be more objective than those in conventional media. Celebrity physicians believed that their efforts were partially rewarded, because they received tremendous support from their social media fans, and they observed a growing influence of doctors’ voices in shaping media narratives about medicine and the public health system. Nonetheless, they noticed that their attempts to organize or join offline activities were suppressed. In these cases, expressing their dissatisfaction with the

government in cyberspace became a pure emotional release that did not generate any substantial outcome.

Celebrity physicians' media use motivations were reflected in the content they produced. Textual analysis results revealed the primary themes and the dynamics of the online conversations between celebrity physicians and their social media fans. Celebrity physicians' Weibo posts primarily covered three themes: health, politics, and culture, and many of their posts covered more than more one theme. These posts received different kinds of feedback from their fans. Health-related posts received almost one-sided support, posts that complained about the health care system received support but also encountered challenges, and posts focusing on cultural issues, especially TCM, often initiated heated debates. The phenomenon suggested that celebrity physicians' identities of being medical experts were being recognized most, followed by their identities of being insiders of the public health system, and their opinions about TCM were not widely accepted. The trend was reflected in survey results: in comparison to ordinary social media users, fans had a more positive attitude towards the ethics of Chinese health care professionals and a more negative attitude towards the government, but no significant difference was identified in terms of the perceptions of TCM.

Overall, Chinese celebrity physicians' online activities reflected the huge capacity of social media in delivering large amount of information to a big population, in fostering political deliberation, and in magnifying the voices from dissident groups. The study also found that celebrity physicians played multiple roles as medical experts, opinion leaders, and celebrity on Weibo. These roles indicated the multiple connections between celebrity physicians and their social media fans: celebrity-fan, doctor-patient, and opinion leader-public. The features and implications of the multiple connections will be discussed in Chapter 6.

CHAPTER 6

DISCUSSION

The interactions between celebrity physicians and their social media followers demonstrated the features of three types of relationships: celebrity-fan, doctor-patient, and opinion leader-public. These relationships were built upon different types of media use motivations. Previous research has examined each type of relationship and their implications, but few cases have reflected a mixture of different types of relationships. The technological features of social media and celebrity physicians' perceptions of the social context led to the coexistence of different types of relationships. This study identified the celebrity physician-social media follower connections presented both typical and atypical features of the relationships described by previous literature. Besides that, the role of celebrity physicians played in each type of relationship involved new features and had the potential to generate different types of outcomes (Table 6). This chapter will discuss the sociological origins that shaped the formation of the celebrity physician-social media follower interactions, the dynamics and the potential outcomes of each type of relationship, and their theoretical implications.

Table 6 Multiple connections between celebrity physicians and their fans

Relationship	Celebrity physicians' roles	Social media use motivations	Social media followers' roles	Social media use motivations/gratifications	Power	Potential outcomes
Doctor/expert - patient/layperson	Doctors/experts	Disseminate health-related knowledge	(Potential) patients/laypersons/	(Motivation) Seek information about health	Celebrity physicians dominate the discourse	Increase public health literacy

Table 6. Continued

Opinion leader-public	Opinions leaders	Reveal the role of the government in poorly managing the health care system	Public	(Gratification) Obtain alternative information that is not available in mainstream media	Play different roles dependent upon their positions in the social network	Build counter-narratives against the government; try to impact public opinion
Celebrity-fan	Celebrities	Rebuild an identity as an ordinary person	Fans	(Motivations and Gratifications) learn stories from doctors for fun	Celebrity physicians are challenged occasionally	Trigger debates over traditional cultural issues such as TCM

Doctor-patient relationship

The doctor-patient relationship between celebrity physicians and their social media fans was not a conventional doctor-patient relationship described by health communication literature: celebrity physicians did not attempt to address specific medical concerns with a designated audience, and social media followers were not pure health information seekers, who were only gratified with the health-related information they received. Nevertheless, the dissemination and reception of health-related knowledge was a typical process between experts and laypersons. The findings indicated celebrity physicians and their fans have transferred the traditional doctor-patient relationship into cyberspace.

Scholars have examined the way health care professionals used new media technologies to extend medical services (Dutta, 2009; Glueckauf & Lustria, 2009). In these cases, social media was a tool to enhance the preexisting doctor-patient relationship. From patients' perspective, social media users used the Internet, primarily, to seek different kinds of support (Johnson & Case, 2012; Wright, 2009). Unlike typical health information seekers, who usually

had a clear focus on what medical issue to search online (Johnson, 1997; Spence et al., 2013), celebrity physicians' fans were open to a wide variety of information they received.

In addition to health-related motivations, such as seeking a second opinion, entertainment was also considered an important reason, driving users to health-related content (Boot & Meijman, 2010). The trend was also observed in the celebrity physician case: information and entertainment were the primary reasons for users to follow celebrity physicians. In this case, celebrity physicians' personal life stories and their original jokes provided entertaining topics to their followers. This was distinct from the entertainment elements purposefully built into edutainment programs (Singhal & Rogers, 2004). Producers of edutainment programs added entertaining elements in order to raise public awareness of medical issues and motivate people to perform desirable behavior (Finnegan & Viswanath, 2008; Singhal & Rogers, 2004), but for celebrity physicians and their social media followers, entertaining elements played a more important role in creating the relationships between celebrity physicians and their followers. Survey results suggested a considerable portion of fans followed the first celebrity physician, because they were interested in the informative or entertaining content retweeted by their friends. As such, together with health-related information, the need to entertain became a crucial factor that triggered the formation of online connections between celebrity physicians and their fans.

Online conversations between celebrity physicians and their fans reflected a conventional and hierarchal doctor-patient model (Dutta, 2009; Lewis, 2009) in which doctors/experts provided information and patients/laypersons accepted the information with little skepticism. The information flow was mainly one-sided (Johnson & Case, 2012), from celebrity physicians to their social media followers. Fans rarely challenged the information about conventional medicine provided by celebrity physicians; instead, they appreciated celebrity physicians for

providing health-related knowledge. The high reputation of celebrity physicians suggested that social media users viewed celebrity physicians as authoritative sources (Duffy & Thorson, 2009) for health-related information. Celebrity physicians also indicated they were glad to see their fans appreciated the information they provided, which was a desirable doctor-patient connection to them.

In addition to facilitating the building of an ideal doctor-patient relationship, Weibo was unique to celebrity physicians, because the website offered them a chance to reach an even larger population. Weibo was not the first social media site allowing interactions between doctors and patients in China. Online forums, such as Good Doctors Online, had allowed patients to contact physicians and ask questions about their health-related concerns. However, celebrity physicians found Weibo to be a better place, because they had access to the general public via Weibo, not limited to patients. Public, instead of patients, made a significant difference to celebrity physicians. They believed that, while patients only cared about treatment of their illness, ordinary social media users cared more about things, such as healthy lifestyle and prevention of certain diseases, which is essential to the increase of public health literacy. The concept of health literacy includes the knowledge and skills people could use to exert control over their health (Nutbeam, 2008), and celebrity physicians emphasized the facet of knowledge. They believed that by expanding prior knowledge about health and medicine (Baker, 2008), individuals would better make decisions when they face medical concerns. The findings indicate that, while social media sites built exclusively for health-related purposes could offer medical advice on specific medical concerns, general social media sites were considered important, as well, because health care professionals were willing to use it as a more diverse platform to improve public health literacy in the long-term.

Opinion leader-public relationship

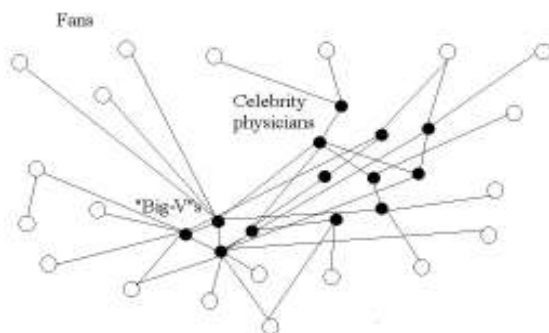
The formation of virtual social networks. The interpersonal potential of the Internet (Ruggiero, 2000) enables users to create networks and even communities through information exchange in cyberspace. Through tweeting and responding to each other's comments back and forth, celebrity physicians and their social media followers formed social networks in cyberspace. This kind of virtual network was different from the strong ties connecting families and close friends; instead, they were weak-tie networks that extended access to information and fostered a sense of community (Johnson & Case, 2012). Within the networks, users were gate-watchers, who promoted and diffused information through making others' information known to others in cyberspace (Spence, 2013). In addition to acquiring a sense of belongingness (Lee, 2012) and commonality (Quan-Haase & Young, 2010) within the peer community, news sharing within and outside of the social networks could generate profound political outcomes.

While professional associations in real space did not make valuable contributions to refute unfounded accusations or repair doctor-patient relationships, celebrity physicians created a virtual professional association in cyberspace to achieve the goal. Even though the vast majority of online conversations were initiated by celebrity physicians, fans also played an important role in shifting the focus and direction of the discussions. The loosely constructed network played the role of a professional association in a considerable number of cases, including clarifying rumors, helping victims of workplace violence, and promoting policy change. The virtual social network had greater social impact when fans, who were not health care workers, but ordinary social media users, supported celebrity physicians' appeals and spread their voices to an even larger population. In comparison to traditional professional associations that only gathered people

within the medical field, the virtual association, created by celebrity physicians, had closer connections with the general public, which amplified the voices from health care professionals.

The following figure (Figure 2) illustrates the structure of a virtual social network, comprised of celebrity physicians and their social media followers. Solid dots indicate celebrity physicians, and hollow dots refer to fans. Like other structured social networks, individuals played different roles upon their perceived positions in the network (Weiman, 1989). To be specific, Big-Vs, other celebrity physicians, and fans utilized Weibo in various ways to achieve multiple goals.

Figure 2 Virtual social network comprised of celebrity physicians and their fans



The central players and opinion leaders were not officials from health bureaus, but they were the Big-Vs, the most famous celebrity physicians, like Yu Ying, Li Qinchen, and A Bao. Big-Vs played the dual roles of being opinion leaders and spokespersons. While most celebrity physicians did not consider using Weibo as a part of their professional lives, Big-Vs spent more time on the social media site and appeared to take their Weibo activities more seriously. For example, some of them wrote long articles, discussing the public health system, and their articles were often retweeted by fans and other celebrity physicians hundreds of times. In other words, Big-Vs played a dominant role in determining the issues to be deliberated within the social

network (Bimber et al., 2009), and because they had the largest number of fans, their articles were retweeted most frequently. Big-Vs also played the role of editing and selectively retweeting articles written by other celebrity physicians. A few interview respondents said they sent their essays to Big-Vs to post, but not all the essays were posted. By integrating resources and information from celebrity physicians across the nation, Big-Vs became leaders in the circle. This kind of central leadership reflected the Internet's flexible affordance in mobilizing a decentralized and loose network of people in collective actions (Bimber et al., 2009).

In addition, Big-Vs acted as the spokespersons of the social group. Being famous nationwide in cyberspace, Big-Vs received attention from the conventional press. Big-Vs accepted interviews in various public events, from public health crises to workplace violence against doctors. Big-Vs' opinions reflected the call of celebrity physicians and other health care professionals. Being the spokespersons built a bridge, connecting new media and conventional media, which altered the tradition that journalists interviewed officials from health bureaus, only, and ignored the voices from ordinary health care workers.

Like other celebrity physicians, Big-Vs were experts in particular fields, and they posted health-related information in their areas of expertise, as well. However, in comparison to most celebrity physicians, Big-Vs played a more active role in addressing issues with political concerns, such as the health care reform, violence against health care workers, health care service pricing, and private investments in the public health system. They wrote long articles, addressing these social and political concerns, and sometimes, they worked collectively to magnify the impact. For example, during the case of the death of a new mother in Henan, Big-Vs responded quickly after the misleading story was published in conventional media: one of them analyzed the story line by line and pointed out the misleading sections, one questioned the lack

of medical common sense in the story, one wrote an article introducing the possible reasons of death during birth, and a few of them requested local health agencies to further investigate the reason of death of the patient. After the local health agency announced that the patient died of amniotic embolism, Big-Vs wrote articles to introduce the danger of amniotic embolism, discussed what doctors could do to treat the situation, and criticized journalists who produced the first fabricated story. This was a typical case, illustrating the collective efforts of Big-Vs: they each addressed one aspect of the social issue, and other celebrity physicians and fans helped magnify their voices through retweeting. With the absence of formal organization tools (Bimber et al., 2009), celebrity physicians were mobilized to pursue their collective interests via social media.

Most celebrity physicians were not influential enough to be interviewed frequently by conventional media outlets. Unlike Big-Vs, who posted most on political issues, other celebrity physicians addressed both political concerns and their areas of expertise. As the textual analysis discovered, celebrity physicians posted health-related knowledge in their areas of expertise, and sometimes, they discussed the health-related problems with a lot more depth. In terms of political issues, celebrity physicians were more likely to retweet the posts from Big-Vs, rather than writing new ones themselves. Their practices spread Big-Vs voices to a new group of fans, and celebrity physicians could add their own comments on the issue when retweeting. This was very similar to the second step of the two-step flow model, but celebrity physicians not only spread information, but also, they contributed their personal understandings on the issue through adding new comments to the original post.

Fans were a unique group in the circle. Technically, they were not a part of the professional association, but they played a prominent role in amplifying the impact of health care

professionals. First, by retweeting celebrity physicians' posts, fans continued expanding the influence of the voices of celebrity physicians. Both the content produced by celebrity physicians and the efforts of fans contributed to the popularity of celebrity physicians. By retweeting celebrity physician's posts to a even larger audience, such as fans' personal network comprises of friends and family members, fans extended the reach of celebrity physicians' voices.

Second, while most celebrity physicians did not have time or were not interested in responding to most of the trolls and dissidents, fans took over the role of discussing, debating, or even arguing with them. In addition to reflecting fans' needs to express their opinions on public controversies, fans' responses reflected their request for involvement in celebrities' activities, which has been identified in the film star- fan relationship (Barbas, 2001). Celebrity physicians would like to encourage the public to accept their ideas, but they did not respond to all the challenges from their followers. This is, primarily, because celebrity physicians were not professional health campaigners or advocates, who attempted to reach a particular goal within a particular time framework (Noar, 2006). In contrast, celebrity physicians could only vaguely indicate they expected to make some changes in the long-term. Receiving a certain amount of unfriendly comments was acceptable to them. Besides that, celebrity physicians did not prioritize their Weibo activities to their professional career. Therefore, they were not willing to spend a lot of time dealing with trolls during their leisure time.

In the celebrity physicians-fans network, although fans had little power in influencing celebrity physicians' content to produce and personalities to present, they played a crucial role in interpreting and supporting celebrity physicians' opinions. Rather than making profits, their interpretations consolidated the counter-discourse created by celebrity physicians, which was in accord with celebrity physicians' goals.

On the surface, responding to trolls reflected ordinary people supporting and understanding celebrity physicians, endorsing the claims they made in their posts. Of more importance, fans triggered a considerable number of thoughtful and informative conversations, although they often ended with mutual anger. For example, when talking about why patients had to wait for hours outside the office to see a doctor, fans responded back and forth with those who were confused about the problem. Fans calculated precisely the time a doctor could spend on a single patient, and they used various metaphors to illustrate the dilemmas doctors were facing. In this way, fans interpreted the messages from celebrity physicians with further information and initiated direct conversations with those who were unhappy with doctors. Therefore, fans played an important role in addressing the concerns directly to individual users and fostering political deliberation. This kind of deliberation is highly valuable, because it can trigger greater political participation among the general public (Papacharissi, 2009).

A social network comprised of celebrity physicians and their fans had profound potential for political and civic actions. Unlike most member-initiated networks or communities that had either a professional or social orientation (Brandon & Hollingshead, 2007), the network involving celebrity physicians and their fans was both professionally and socially oriented. To members of the social network, learning about what was happening within the network and in the world, reflecting on it, and discussing it with a large audience not only enhanced the relationship of trust among the group members, but also created opportunities for civic actions that may impact the political realm (Gil de Zuniga et al., 2012). For example, by exchanging information via Weibo, celebrity physicians and their social media followers almost succeeded in organizing offline protests after the occurrence of workplace violence against doctors in Wenling. The action was finally stopped by the government, using its administrative power in real space, but

the social network demonstrated the potential of a virtual network in fostering civic and political engagement.

Impact. The functionalist tradition views the media as a tool, serving various needs of the society, such as cohesion, cultural continuity, social control, and a circulation of public information (McQuail, 2010). Like other types of media, social media use impacts various aspects of public life. Physicians and medical organizations primarily use social media to provide extended medical service, such as community outreach, patient education, public relations, and crisis communication (Eckler et al., 2010). Celebrity physicians attempted to use Weibo to cultivate a group of “ideal” patients, reifying the hierarchical distinction between physician “experts” and patient “nonexperts.” In addition to these health-related goals, celebrity physicians in China had a stronger desire to impact the political realm, such as reshaping the power relations between the state and the public in forming public opinions. The social influence of online activities is usually achieved in the long-term (Sassenberg & Jonas, 2007), and after a few years of establishing their professional presence on Weibo, celebrity physicians had presented their potential to achieve those goals.

Celebrity physicians’ posts blurred the boundary of “news” defined by the party-state. On the surface, celebrity physicians’ posts were not different from those published by ordinary users, which did not deserve additional censorship from the government. However, the revelation of “internal policies” and the government’s lies were highly newsworthy to the public: this information was true, important, and involved tremendous public interest. Being informed of the “internal policies” was important to the public. Without violating the state’s regulations on media and news production, celebrity physicians managed to disseminate the information that was not in favor of the party-state, which was not expected by policy makers. Even though authorities

attempted to control the information flow under certain circumstances, such as at the time when celebrity physicians and their fans planned and organized protests, they could only delete the posts afterwards. The technological features of the Internet have made the censorship different to perform in cyberspace, which in turn, empowers celebrity physicians and ordinary users in various aspects of social life, including health, politics, and culture (Diamond & Plattner, 2012).

Early research has demonstrated how social media in China set, sustained, and defeated the news agenda in various cases, such as the anti-Japanese protest, the entrapment incident, the 2003 SARS epidemic, and the Deng Yujiao case (Stockmann, 2013; Tang & Sampson, 2012; Tai, 2006). These early cases shared a few features in common: social media users gathered together, due to the occurrence of a random social event, and they separated when the cases were settled. This kind of online activity was events-driven and did not sustain for a long time. Even though they had successfully pressured the government to address their specific concerns (Tai, 2006), they could do little to address the institutional concerns of the party-state or to reshape the public opinions in the long-term. The online activities of celebrity physicians and their fans have gone beyond the efforts made by their ancestors.

A major difference between celebrity physicians' virtual circle and the groups of online petitioners in early cases was that the connections between celebrity physicians and their fans were not event-driven. In the Deng Yujiao case, petitioners and users virtually gathered together for the sake of pushing the government to investigate Deng's death; so as long as they were temporarily satisfied with the government's responses, they found no reason to keep connected any more. In other words, users did not form a network or community that could exist in the long-term, and they were only able to generate impact on one particular social event. This does

not mean their efforts in pushing the government to address the particular issues was meaningless, but their impact was shallow and temporary.

The previous section illustrated the structure of and the interactions within the virtual social networks created by celebrity physician and their fans. Survey results revealed that fans followed celebrity physicians for various reasons, and a large portion of them became fans, only, because they liked the general health-related information provided by celebrity physicians. These non-event driven incentives resulted in the sustainable online connections between celebrity physicians and fans. This kind of connection has profound implications. First, the online social network could exist in the long-term. As long as celebrity physicians kept posting information that was helpful to their fans, the social group would keep dynamic for a long time. Being consistently involved in a community not only increases the sense of belongingness to each other (Chen, 2011), but also contributes to the formation of shared norms and identities. In a few recent social events, such as the Henan case in 2015, the network has demonstrated its power in making joint efforts to alter public opinions. As a rising social force, members of this group will be more skillful in pursuing their goals as they keep a pertinent membership in the group. The pertinence will make the group more powerful than a temporary group of petitioners, who gathered and separated within a short period of time.

Second, building upon shared political concerns empowered members of the virtual social network to address their concerns in the broad social and political context. Unlike the petitioners in the Deng Yujiao case, who had a clear and definite goal of helping Deng's family, celebrity physicians and their fans appeared to have a very vague goal in their online activities, because they rarely acted to help a particular person or family. Even in their posts memorializing the victims of workplace violence, celebrity physicians emphasized the need for the government

to make changes more than showing sympathy to the victims. However, this kind of vagueness gave rise to more possibilities. In the recent public controversies, the virtual network demonstrated its pursuit to seek the rights of the whole group, i.e. health care professionals and ordinary patients, rather than a single person or family. In cases, such as the death of Deng Yujiao, Internet users emphasized Deng's family's right to know the truth, and Deng's family was the only persons benefited from netizen's efforts. In contrast, in their online activities, celebrity physicians and their fans were promoting concepts, such as professionalism, health literacy, free press, modernization, law enforcement, and litigation. By applying these concepts, celebrity physicians either revealed the institutional deficits of the current health care system, or gave constructive suggestions on how to address these concerns. Overall, celebrity physicians and their fans had more profound understandings of the social system, and instead of addressing social problems in a case-by-case manner, they attempted to contribute to positive social change at the macro level.

Finally, the network, comprised of celebrity physicians and their fans, involved opinion leaders, who contributed highly valuable information and improved the quality of online conversations. The in-group interactions between celebrity physicians and fans suggested that they had profound dialogues on a wide variety of issues, health-related knowledge, health care policies, and traditional culture. The textual analysis demonstrated the high level of information exchange within the group. Even though they had not reached consensus on all the issues, engaging in discussions on various social events prepared the group with the knowledge and information needed for political deliberation. In a considerable number of cases, celebrity physicians and their fans promoted mutual understandings through exchanging viewpoints on public controversies. A typical example was their conversations surrounding HIV detection and

blood transfusion. The dialogues surrounding the case covered diverse areas of public life, and fans acquired health-related knowledge, clarified rumors, and proposed potential solutions to address the grievance. These activities reflected that social media in China fostered the emerging of public sphere, even though the public sphere in cyberspace was weak and incipient within the large political context (Tai, 2006; Gang & Bandurski, 2010).

Social network sites were mainly designed for entertainment purposes (Boot, 2010), so it was reasonable that the majority of the conversations via social media had no profound social implications. Therefore, occasionally delivering calm and rational conversations surrounding health-related and political issues was a prominent advantage of the circle created by celebrity physicians and their fans. These dialogues were much more meaningful at the societal level than those in the cases, such as Deng Yujiao's death, because they fostered public debate and problem articulation (Yang, 2003). This kind of use of technology can enhance citizen engagement in political activities that promote democracy and social change (Zheng, 2008).

Overall, in comparison to most autonomous sources of information, social media play a more important role in setting agenda in public discourse (Stockmann, 2013). The case of celebrity physicians demonstrated the liberating power of social media: by allowing wide participation and presenting citizens' positions, the Internet in China had facilitated the growth of social movements (Tang & Sampson, 2012). However, even though celebrity physicians have been largely empowered, the government is powerful, because it is still able to control the information flow on the Internet through censorship and surveillance (Morozov, 2011). Situated in a complicated social system, the media is powerful in facilitating information exchange and is vulnerable to the political and economic power that exerts control (Lei, 2011).

Goal-oriented Internet activities performed could promote off-line civic engagement and other political activities (Ognyanova et al., 2013), but online activism in China does not always predict democratization, because the deliberative spaces in cyberspace cannot be extended to real space (MacKinnon, 2012). A typical example was celebrity physicians' attempt to organize offline protests during the Wenling case being thwarted by the government. The authorities applied both online and offline approaches to prohibiting the politically oriented collective action: they deleted the Weibo posts in which celebrity physicians announced the time and place of their planned protests, and they effectively persuaded hospital administrators to discourage their employees from joining the offline protests. The case showed the government was much more powerful in controlling the information and using media technologies to full fill their needs than ordinary social media users such as celebrity physicians (Morozov, 2011). The political structure of the party-state in China has made authorities efficient in suppressing civic activities that may threaten their dominant position (Stockmann, 2013). Celebrity physicians and their fans will face more challenges if they would like to expand their influence from cyberspace to real space and to promote more substantial changes in society. The dilemma suggested that a potential public sphere cannot be secured without innovative institutions (Boham, 2004), and a social context like that of China does not appear to support the changes.

Nevertheless, celebrity physicians demonstrated their power in impacting public opinions and even the conventional media agenda. Celebrity physicians mainly achieved these goals through their collective efforts during sensational health-related social events. By challenging the agendas and narratives created by the conventional media, social media users actually challenged the dominance of the state in manipulating public opinions. Social media is mutually empowering and mediating the relations between the state and the society, and the Internet has

become a new realm where both the state and the public try to expand their own political space (Zheng, 2008).

Celebrity-fan relationship

The relationship between celebrity physicians and their social media fans had features that were distinct from an ordinary celebrity-fan relationship. The uniqueness primarily resulted from celebrity physicians' perceptions of their identities: rather than being celebrities who had some medical knowledge, they preferred playing the role of health care professionals who were famous within a certain population. Prioritizing their professional identity explained celebrity physicians' unusual activities as celebrities.

In a conventional celebrity-fan relationship, affiliation is crucial to the maintenance of relationship between celebrities and their fans. Using particular languages, words, cultural symbols, and conventions, celebrity practitioners tried to create a connection with their fans (Marwick & boyd, 2011). Scholars have identified two types of affiliations that connected celebrities and their fans in media and culture industry: role model-observer (Barbas, 2001), and product-consumer (Galbraith & Karlin, 2012). In the first model, fans perceived celebrities as personal role models, and they mainly worshiped their personalities. In the second model, fans consumed the cultural values conveyed by celebrities. In both models, celebrities' personalities, usually artificially created, played a dominant role in connecting celebrities and their fans.

The celebrity physician-fan relationship fits either model. It partially reflected the features of conventional celebrity-fan connections: like other celebrities using social media as a promotional tool, celebrity physicians tried to create a sense of intimacy with their fans through strategically revealing personal stories (Marwick & boyd, 2011). However, the main reason celebrity physicians became popular was the health-related knowledge they disseminated and

their opinions on the health care system, rather than their personalities and the cultural values they conveyed. Therefore, celebrity physicians did not attempt to create a fake personality to please their fans, which was unique to most celebrities created by the culture industry. In contrast, celebrity physicians were aware of and purposefully presented their desirable identities to the public: ethical health care professionals and ordinary human beings, even though the images were often contested in the conventional media discourse. Celebrity physicians created the images by their personal understandings of their profession and their social positions, regardless of what their fans would like or dislike.

When it came to the issue of TCM, celebrity physicians attempted to maintain a hierarchical doctor-patient relationship with their fans, rather than pretending to be neutral on the public controversy. Textual analysis has revealed that celebrity physicians often become unfriendly to ordinary users in online conversations surrounding TCM. Interview participants also claimed to be disappointed when they found their fans not agreeing with them on TCM. Their persistence and unyielding on TCM suggested that celebrity physicians valued their identities of being health care professionals much more than being celebrities. Accordingly, they kept promoting their understandings of TCM even if many fans found them to be offensive. This resulted in a discrepancy between celebrity physicians and their fans: celebrity physicians viewed TCM as a pure medical topic that they had full authority in giving interpretations, but social media users very often understood the topic from cultural perspectives and they considered celebrity physicians to have limited expertise in this area.

Survey and textual analysis results suggested that fans followed celebrity physicians primarily for informational purposes, and they very often disagreed with celebrity physicians' opinions on cultural issues, such as TCM. Unlike most celebrities, who tried to emphasize

commonalities with their fans (Marwick & boyd, 2011) and to avoid expectancy violations (Prusa, 2012), celebrity physicians did not conceal their opinions on issues like TCM, which could have broken the relationship with their fans. Celebrity physicians did not appear to be anxious about annoying their fans, because being famous in cyberspace was not profit-oriented to them.

The production and maintenance of this kind of alternative celebrity-fan relationship could be achieved because celebrity physicians were not selling their identities for profit, like stars and idols, within a mature cultural industry (Barbas, 2001; Galbralth & Karlin, 2012). Survey results suggested that fans followed celebrity physicians, primarily for informative and entertainment purposes. In other words, celebrity physicians were appealing to Weibo users, because they disseminated health-related knowledge, revealed hidden information about the health care system, often provided interesting stories, and created a platform for online conversations.

Celebrity physicians' building of counter- and alternative discourses were achieved solely through voluntary and unpaid work of ordinary health care professionals, which reflected the potential social and political power of professionalism. The case suggested that, enabled and facilitated by social media, users' individual and personalized media use, including content production and online interactions, could generate larger impact at a societal level. Celebrity physicians were unique, because they were neither health campaigners nor artificial figures produced by the star-making industry; in contrast, at first, they used Weibo as ordinary social media users. Not being backed by any organization led to the fact that celebrity physicians did not have a shared agenda or a comprehensive strategy to achieve the goal. Besides that, they did

not deliberately shape themselves into celebrities, and becoming famous online was somewhat of a surprise to them.

Even though interview participants thought that they tried to present themselves in more professional ways after they became famous within a certain population, they did not appear to produce content that they did not agree on only to please their fans. Big-Vs also acted distinctly from traditional celebrities as well. For example, in order to prove that TCM was nothing more than a trick, a Big-V having more than forty-seven thousand followers, whose Weibo ID was Burns Dept.'s Superman A Bao (*Shaoshang Chaoren A Bao*), invited TCM practitioners to use typical TCM methods (the “pulse diagnosis”) to diagnose if their patients were pregnant (“TCM practitioner from Chengdu”, 2014; “TCM practitioner who accepted the challenge”, 2014). This did not appear to be a wise act to a celebrity, as he received harsh criticism due to his proactive attitude and biased statements. His activities suggested that when there was an identity conflict, celebrity physicians would prioritize their identities of being health care professionals to their identities of being celebrities.

In addition to being different from ordinary celebrities, celebrity physicians’ activities were also distinct from conventional health campaigns, social movements, or entertainment programs, which had been examined by abundant literature. This study showed the dynamics of a different kind of online health and political campaign: these unconventional campaigners virtually gathered out of shared notions of professionalism and shared concerns of social situations. Even though, later, celebrity physicians applied strategies, such as “collective retweeting” to expand their influence, their long-term campaign was more loosely structured and controlled than those sponsored by professional agencies.

Not being sponsored or endorsed by financial or educational agencies had pros and cons to a social group like celebrity physicians. The primary advantage was that in a populist authoritarian regime, like China, celebrity physicians did not face any financial or political pressure from the outside. In other words, the only criteria in determining what to post was their professional knowledge and their personal opinions. Having few restrictions on content production enabled celebrity physicians to build counter- and alternative discourses that were favorable to them. While the dominant discourses were prevalent in conventional media, social media enabled celebrity physicians to have their voice heard by the public at a different place in the social arena. Besides that, celebrity physicians did not have to handle the pressure from powerful economic forces. For example, the tobacco industry is considered a major obstacle to health advocates who encourage the public to quit smoking (Seale, 2004). To most of the celebrity physicians in China, they seldom encountered these problems, because their online activities were completely personal. Being independent from substantial groups and organizations in real space offered celebrity physicians more freedom in disseminating the information in their favor.

Another significant advantage was, the loosely structured group had the potential to include more voluntary advocates, and in this case, they were celebrity physicians' social media fans. Fans played crucial roles in expanding the social network and moderating conversations with other users, even though they remained critical on a number of issues, such as their disagreement on the abolishment of TCM. The relationship between fans and celebrity physicians was much more rational than ordinary celebrity-fan relationships. These critical fans worshiped celebrity physicians not due to their personalities, but the knowledge and information celebrity physicians could provide, as suggested by survey results. In other words, users did not

have to fully worship all the perspectives of a celebrity physician to become fans, which lowered the barrier to entering the network. In conventional celebrity-physician relationships, like the ones in Japan, expectancy violation often causes the termination of celebrity-fan relationships (Prusa, 2012). Appreciating the dissemination of health-related knowledge and shared opinions on the current health care system was adequate to make fans side with celebrity physicians. As a result, rather than promoting individual celebrity physicians, fans were promoting the voices of health care professionals when they retweeted posts to a larger population. This kind of “rationality” led fans to continue to follow celebrity physicians, even if they found they disagreed with each other on cultural issues, which was a desirable outcome to celebrity physicians. Although fans were not health care professionals, they could be considered a part of the virtual association due to their role in further connecting the professionals and a larger population.

A major problem of a loosely structured group was that celebrity physicians could not reach consensus on a few issues, which led to different levels of distrust from the public. In this case, celebrity physicians’ highly personalized interpretations of TCM often triggered conflicts with their fans, and survey results suggested that celebrity physicians’ efforts to discourage their fans from using TCM largely failed. Even though a few celebrity physicians strategically avoided talking about TCM in order not to annoy their fans, overall, celebrity physicians were highly personalized when dealing with the controversy. Conveying a successful campaign requires a lot of work, including formative research and evaluation of media messages (Noar, 2006). Celebrity physicians apparently did not devote that much effort to learning about their fans, and their strong position on TCM reflected their overlooking the strong impact of

cultural traditions among young users. Being inconsistent to each other and, sometimes, extreme on cultural controversies could be a threat to the reputation and popularity of celebrity physicians.

The construction of alternative narratives. The construction of alternative narratives about TCM was not as successful as the building of counter-narratives that attempted to address the conflicts with the government. Interview results suggested celebrity physicians were not fully against the use of TCM, but they only attempted to break popular myths about TCM and to reinforce the notion that TCM should not be the optimal approach to treating illness. However, the textual analysis revealed the tweets posted by celebrity physicians were not consistent with their claims made in interviews. Most of the tweets on this topic had a negative attitude towards TCM, some of which were too extreme to be accepted by the general public. As a result, celebrity physicians had least control over the conversations on cultural-related issues, such as the public debate over TCM, and they did not effectively discourage their fans from using TCM. Many reasons contributed to the formation of the not-so-successful alternative narratives: biased group representations, inconsistent understandings of TCM among celebrity physicians, use of extreme rhetoric, and not considering TCM to be the most important controversy to be addressed on Weibo. Survey results suggested the alternative narratives were not widely accepted by fans.

Health-related information had been a popular topic covered by conventional media, but celebrity physicians noticed, in many cases, the information published by conventional media was not reliable, which created many myths about health and medicine. Celebrity physicians constructed alternative-narratives to provide the public with more reliable information. In addition, unlike conventional media often promoted TCM approaches to be safe and effective, celebrity physicians took a more conservative position on the use of TCM. Even though not fully against the conventional narratives, celebrity physicians attempted to demonstrate their

understanding of TCM by applying the standards from conventional medicine. Their narratives about TCM was built within the theoretical framework of conventional medicine, which reflected Western and modern ways of thinking (Black, 1988).

Like other social groups in China, individuals with moderate views were less eager to publicize their opinions, and as a result, those who spoke out most on the Internet were those with extreme points of view (Shirk, 2011). Celebrity physicians appeared to be highly negative with the use of TCM on Weibo. Sometimes, they mocked those who liked TCM in their tweets, and their unfriendly tones annoyed many fans. Although the interviews identified that some celebrity physicians had a comparatively neutral stance on this controversy, the prominent opinion on Weibo was highly negative and even extreme. In other words, even though not all the celebrity physicians were fully against the use of TCM, voices from radical celebrity physicians dominated cyberspace, which created an illusion that the vast majority of health care workers in China were firmly against the use of TCM. A question is raised: where are the moderates? Interview results suggested that in order not to have a potential debate or even conflict with pro-TCM fans, these celebrity physicians chose not to be involved in debates over TCM on Weibo. They understood that TCM was a highly controversial topic, so they strategically avoided talking about the issue with their fans. The moderates did not want to take the risk of losing fans due to their disagreements on TCM. Voluntarily silencing their voices had resulted in the fact that only the most radical opinions were heard by the public, while other voices were much weaker. The biased group representations on Weibo prohibited celebrity physicians from presenting a comprehensive understanding of TCM to their fans.

In addition, radical claims about TCM and culture had made social media users angry, threatening the popularity of celebrity physicians. In a considerable number of debates, to

denounce the effectiveness of TCM, celebrity physicians angrily wrote something, such as “Traditional culture should be abandoned because it is incompatible with modern life.” Claims like this expanded the scope of the debate from TCM to all kinds of traditional cultural products, and the extreme attitude on culture could have hurt the feelings of a larger group of people, who found no reason to abandon all kinds of cultural traditions, regardless of their functions in social life. These implausible and highly emotional claims could not positively contribute to the reputation of celebrity physicians. In contrast, using Western medical theories to judge traditional culture indicated a certain kind of scientific authority and Western hegemony, which could be even more offensive to nationalists. Anti-imperialism has always been an element of the building of Chinese nationalism (Zheng, 1999), and nationalists were highly sensitive about the endangering state of local culture under Western influence (Ong, 2005). Celebrity physicians’ denouncing TCM reflected the threats TCM were facing, which would certainly arouse resentment among nationalists.

Overall, celebrity physicians failed to build and present a desirable alternative discourse on TCM to social media users. While celebrity physicians, primarily viewed TCM as a myth, even an approach to deception that was incompatible with conventional medicine, their fans were more likely to accept TCM as a cultural product and an alternative medical approach. During various social movements between the late 1800s and the early 1900s, modernists harshly criticized TCM to be unscientific, but their efforts committed to abolishing TCM largely failed, because the public treated TCM as a symbol of nationalism that should never be abandoned (Scheid, 2002). Like their ancestors in history (Andrew, 2013), celebrity physicians overlooked the impact of nationalism in shaping public perceptions of health-related issues.

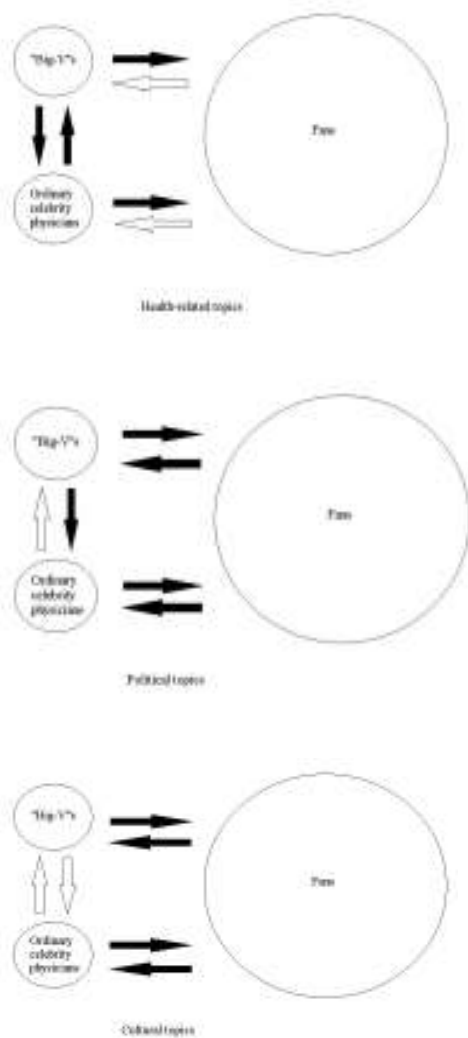
Celebrity physicians' power in managing different types of connections

Previous sections have discussed three types of connections established by celebrity physicians and their social media followers: doctor-patient (expert-layperson), opinion leader-public, and celebrity-fan. Even though celebrity physicians played multiple roles as experts, opinion leaders, and celebrities in online conversations, their roles were not evenly recognized by their followers. Textual analysis and survey results suggested celebrity physicians established authority in the doctor-patient relationship, played a prominent role as opinion leaders in building a counter-discourse about the health care system, and were occasionally challenged as celebrities whose opinions were against the public interest. The phenomenon requires a revisit of the complexity of online interactions, especially the celebrity-fan relationship: within a celebrity-fan relationship where celebrities played additional roles, such as experts and opinion leaders, celebrities were able to maintain the relationship with their fans, even if some of their opinions about culture were not widely accepted. The multiple relationships enhanced the connections between celebrity physicians and their social media followers.

Within the circles composed of celebrity physicians and their fans, the ways users communicated varied across topics. In the following figure (Figure 3), solid arrows indicate high-dense information flow, and hollow arrows indicate low-dense information flow. In terms of health-related content, Big-Vs and other celebrity physicians interacted with each other to exchange the content of tweets (e.g., long essays). They disseminated information to fans, and fans, generally, accepted the information without contributing new information. The communication is mostly one-sided between celebrity physicians and their fans. Celebrity physicians and their fans had much more interactions on political topics, in which both sides pushed the conversations further. Since most celebrity physicians often retweeted Big-Vs' long

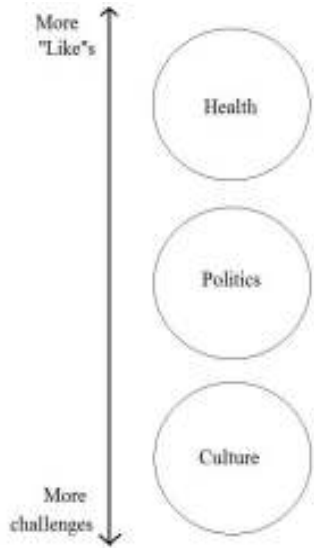
essays, addressing particular political concerns, in these cases, Big-Vs played a more prominent role in determining the agenda for online conversations. Therefore, information flow within celebrity physicians was often one-sided, from Big-Vs to other celebrity physicians. In terms of cultural topics, especially those concerned with TCM, fans contributed much more than they did on other topics: they questioned and challenged the claims made by celebrity physicians, pushing the dialogues forward. In contrast, Big-Vs and celebrity physicians preferred interacting with their fans separately, with much fewer communications between them.

Figure 3 Interactions within the virtual social network



These trends echoed the different types of feedback celebrity physicians received from their fans by topics. The following figure (Figure 4) demonstrates the feedback from fans by different types of topics. Celebrity physicians received most “likes” and least criticism on their health-related tweets, they received both support and criticism on political-oriented tweets, and they received most severe challenges on their tweets against traditional culture. The phenomenon suggested that in the field of health, celebrity physicians had well-established their reputation in cyberspace, which resulted in their information being trusted by the majority of their fans. In terms of political content, celebrity physicians received both support and criticism, reflecting the complexity of addressing the structural and institutional concerns of the current health care system. They were being liked, mostly, due to their disclosure of previously concealed policies and their criticism on the government, and criticism often came from those who had been dissatisfied with health care workers for a long time. The debates on political issues resembled the conflicts between doctors and patients in real life. Nevertheless, celebrity physicians and their pro-doctor fans had advantages in the debates, because in comparison to the opponents, they presented their arguments with solid facts and strong reasoning. In terms of cultural content, celebrity physicians received a lot of criticism, and the counter-arguments were strong enough to refute the claims made by celebrity physicians. In other words, celebrity physicians appeared to be incompetent in imposing their opinions to the public on cultural issues. Like their ancestors in the late 19th and early 20th century, health care professionals attempted, but failed, to establish an authoritative discourse about TCM (Gu, 1999; Andrew, 2013).

Figure 4 Celebrity physicians' influence



Accordingly, their tweets about health were most accepted without challenges, and those about culture were being contested most often. A possible explanation to the phenomenon was, celebrity physicians were highly knowledgeable in the area of health, which differentiated them from ordinary users. Therefore, with a large knowledge gap, ordinary users were not knowledgeable enough to challenge celebrity physicians. They transferred the traditional hierarchical expert-layperson relationship (Johnson & Case, 2012) to cyberspace. In terms of political content, ordinary users had personal medical experience, which made them confident to challenge the claims made by celebrity physicians. Nevertheless, celebrity physicians were more advantageous in justifying their claim, because they were insiders of the system, who knew more about and had deeper understandings of the health care system. When it came to cultural issues, like ordinary users, celebrity users had little advantage in justifying their claims. In other words, neither their professional knowledge nor their personal experiences could make celebrity physicians more knowledgeable with cultural issues than ordinary users. Talking about cultural

issues at the same baseline resulted in the fact that celebrity physicians' arguments were being challenged most often.

The features of the network composed of celebrity physicians and their fans could explain why the most dynamic conversations among them were relevant to politics. Celebrity physicians virtually gathered, due to their shared professional knowledge and social positions, but they varied greatly in the ways they explained and interpreted cultural issues to the public. These features resulted in the fact that they were more recognized by their areas of expertise, than their opinions on the political system, and least recognized by their cultural values. Conversations on health-related topics were mainly unidirectional, due to the knowledge gap between celebrity physicians and fans, and debates on cultural issues often ended with mutual insults, since both sides were firm on their opinions, but had little advantage in persuading each other. On political topics, regardless of the trolls, who could not be avoided, dialogues presented features of public deliberation. Both sides rationally analyzed the concerned issue and tried to persuade the other side with facts and rationality. This was primarily due to the fact that political issues were relevant to all the users, and fans and celebrity physicians both had personal experience to justify their claims. The shared concerns and political stance, enhanced mutual understanding, and fostered articulations on social issues. Forming public opinion online did not have any direct impact on policy change, but it was already progress from being manipulated by the dominant discourse.

Celebrity physicians' dilemmas in addressing cultural issues reflected the inherent conflict of the deeply rooted traditions and the modern notion of professionalism. Ideally, professionalism is supposed to be grounded in culture, because professionals needed to justify their value in the society to the public, and public perceptions of their values were grounded in

culture (Robbins, 1993). In other words, professionalism can be well-accepted by the public if it is compatible with local cultural traditions. However, the ideas embedded in the medical professionalism were grounded in the Western tradition, which did not perfectly match the ideas in traditional Chinese tradition. This explains the situations celebrity physicians were facing: their fans accepted the knowledge from conventional medicine, but they did not agree that the notions conveyed by conventional medicine, such as the necessity of lab tests, was more advantageous than traditional cultural value, such as the emphasis on experience. In addition, the growing nationalism (Scheid, 2002) among the public also prohibited celebrity physicians from promoting their opinions against TCM. The online debates over TCM was identical to those happening one century ago: conventional health care professionals criticized TCM from the conventional medical perspective, but a large portion of the public considered TCM to be a precious cultural heritage, and attacking TCM was somewhat rejecting the value of Chinese culture. Therefore, the scientific knowledge celebrity physicians had been not sufficient to argue against the idea of nationalism associated with TCM. Viewing TCM from two divergent aspects, celebrity physicians failed to establish authority about TCM, and instead, TCM triggered a lot of conflicts.

Figure 3 also suggested celebrity physicians dominated the doctor/expert-patient/layperson relationship, primarily playing the role of opinion leaders in civic activities, but were challenged by other social media users on TCM-related topics. In a conventional celebrity-fan relationship, fans either worshipped or consumed the personalities of celebrities (Galbraith & Karlin, 2012; Prusa, 2012), including individual identities and their opinions on important issues. Celebrities were very careful about the expressions on important cultural and political issues, because the celebrity-fan relationship was very likely to break when fans were disappointed with

celebrities' opinions. The star-selling industry even produced new personalities and carefully tailored celebrities' speech in order not to annoy their fans (Barbas, 2001; Galbraith & Karlin, 2012). Celebrity physicians did not appear to have the sense of star-making.

Theories addressing the celebrity-fan relationship would predict that celebrity physicians could not remain popular, because they were very often challenged and even cursed by a large portion of social media followers on TCM-related topics, and survey results also indicated that a significant portion of their fans disagreed with celebrity physicians. However, with these potential conflicts, celebrity physicians were still able to obtain thousands and even millions of fans. Celebrity physicians' widely recognized roles, medical experts and opinions leaders, reduced the negative impact of their unpopular opinions about TCM. In other words, the well-developed expert-layperson and opinion leader-public relationships made up for the comparatively weak and unstable celebrity-fan relationship.

U&G – The sociological origins of media use

Rooted in the functionalist proposition, the U&G approach explores the factors shaping media use and impact of media use at the individual and the societal level (Ball-Rokeach, 1998). U&G thesis predicted that media use is heavily dependent on people's social and psychological circumstances, including their social roles and personalities (Katz et al., 1973; Rubin, 2009). As a social group, celebrity physicians were motivated to establish a professional presence via social media, primarily out of their social positions in real space. Their media use motives were not merely individualized needs, but were the byproducts of the sociopolitical situations and constraints (Sun et al., 2001). This study tries to further explore the sociological origins of media use (Denoheew et al., 1987).

Media use has three dimensions: content-related, process-related, and social-related (Stafford, 2003). The online interactions between celebrity physicians and their social media fans primarily addressed the content and social dimensions of media use. In terms of the content-related dimension, they exchanged information about various social issues, which fostered problem articulation. In terms of the social-related dimension, through engaging in online conversations, celebrity physicians and their social media fans created a virtual social network that intended to expand the influence of health care workers to a larger population.

The highly institutionalized conventional media. The conventional media in China has been institutionalized into to the Party-state system. Even though, since the reform in the 1980s, the majority of print media was no longer obliged to carry ostensible political propaganda, the flow of information was still closely tied to the central government and the Party (Sun et al., 2001).

Doctors were caught between governmental desire for social stability and ordinary people's request for better health care services. By undermining the professional integrity of health care professionals, the Chinese government concealed the structural and institutional problems within the health care system and shirked its responsibility in addressing public concerns. Conventional media discourse reinforced the notion that the unprofessional health care service providers contributed to the deficits in the current health care system, including high cost and limited access to health resources. The narrative enhanced the dominance of the government, but it triggered conflicts between doctors and patients. Celebrity physicians noticed that treating doctors as scapegoats of the fallacious health care system had caused severe consequences, some of which had threatened the physical safety of individual health care workers. To alter the current unfavorable situations against health care professionals and to mollify the increasingly intense

doctor-patient relationship, celebrity physicians attempted to build counter-narratives to challenge the dominant discourse that was produced by the authoritarian government and reinforced by state-owned conventional media. They found social media to be an ideal platform to create counter-narratives, because institutional power was weak in cyberspace.

The Chinese government manipulated conventional media narratives to free itself from the liability of managing the health care system. As insiders of the health care system, celebrity physicians realized the government devoted little effort to improve the health care system, even though it kept making promises to the public. The government did not want the public to be angry with it as the promises were not kept. Therefore, health care workers were expected to be the scapegoats. This kind of hegemonic manipulation had shifted the conflicts between the government and the public to those between doctors and patients. The government prevented demonstrations in front of their agencies at the cost of the degrading reputation of health care professionals and the increasing workplace violence against health care professionals.

For decades, the conventional discourse about the health care system and health care workers in China was rarely publically challenged. A prominent reason was that voices from health care workers were suppressed in conventional media. This kind of discourse is more powerful in a one-sided information environment, where people's access to and choice of information is highly limited (Stockmann, 2013). Scholars, such as Stockmann, have noticed that together with political sensitivity, social stability was another major concern in producing conventional news content. Prioritizing social stability to the reputation of health care professionals had caused the biased media representations of physicians. Celebrity physicians found no means to seek change in conventional media, because conventional media had been perfectly integrated into the system of the party-state.

Why Weibo? - The advantages of social media. Health care workers were eager to seek out an approach to have their voices heard by the general public. The popular social media site, Weibo, gradually became a prominent medium for celebrity physicians, because it was different from conventional media within the social system for several reasons.

First, celebrity physicians had strong desire to produce and disseminate media content in their favor and to have direct conversations with the general public. Their dual motivations for content production and social interaction could only be facilitated by social media (Stafford, 2003). In other words, the technological feature of social media was a prominent factor that drove celebrity physicians to Weibo. Due to its non-hierarchical nature (Diamond & Plattner, 2012), in a social context like China, websites are much less controlled than newspapers, magazines, and television (Stockmann, 2013). Realizing their limited ability to control the information flow on the Internet, the authorities applied different approaches to digital media content: they ranked topics by different levels of sensitivity and censored the topics selectively, and health-related issues such as the health care reform, HIV and food safety were considered medium to low risk (King et al., 2013). Loosening on the constraints on these topics offered celebrity physicians a precious chance to produce content that was not in favor of the government.

Second, celebrity physicians had full control over the content they produced. Like blogs and online forums, social media are discourse-enabling tools that facilitate the construction of discourses and narratives (Froomkin, 2004). In terms of health-related content, celebrity physicians abandoned sensational rhetoric used by conventional media. Instead, they used objective and neutral tones to introduce the realistic aspects of conventional medicine. Conventional media did not welcome this type of scientific narrative, because they had strong

intentions to draw readers' attention. However, celebrity physicians tried to prioritize the reliability of the information to sensational social impact. They managed to do so via social media, because celebrity physicians were not promoting content for profits, and the number of readings did not appear to be important to them. Nevertheless, celebrity physicians still won a large number of fans with their dry and plain essays. In terms of political information, celebrity physicians avoided the state censorship and gatekeepers from conventional media, which allowed them to publish facts and opinions that had been suppressed for decades. The building of counter-narratives challenged the dominant ideologies that were in favor of the government, suggesting a rise of political power of health care professionals. In terms of culture-related content, especially those about TCM, celebrity physicians offered alternative narratives to the public. The narratives were contested frequently, both online and offline, and ideas promoted by celebrity physicians were not widely accepted. Nevertheless, health care professionals presented their standpoint on this particular issue through initiating or simply being involved in the debates. As a social group, celebrity physicians let the public see their presence and learn their opinions during the debates. In other words, health care professionals were no longer absent in social debates on issues that were closely associated with them.

Weibo was unique to celebrity physicians, because they were able to reach a large audience that went beyond patients. To achieve two prominent goals, that is, increasing public health literacy and addressing the political concerns of health care workers, celebrity physicians needed to have their voices heard by the general public. A general social media site was more advantageous than websites or apps solely facing patients, because all the users, regardless of their health concern, had chances to view the content. In terms of the rebuilding of a desirable doctor-patient relationship, celebrity physicians could do little to alter public perceptions if the

counter-narratives only spread within the professional circle. At the individual level, reaching the general public was the very first step for them to gain public support. At the societal level, communications that attempted to address an indefinite audience with little social exclusion could foster the formation of a public sphere (Bohman, 2004).

Finally, celebrity physicians, together with their fans, took over the role of professional associations in voicing their opinions and fighting for their rights. Professional associations in China were highly institutionalized and had been integrated into the bureaucratic system. The government usually appointed heads of labor unions inside of state-owned hospitals, and professional associations were administrated by governmental agencies as well. Due to their strong affiliation to the government, professional associations could do little to promote the voices from ordinary health care works or to negotiate with the government to address the concerns of health care workers. By using social media, health care professionals escaped the control of bureaucratic power, which empowered them to better address shared concerns.

Social media use - the political ramifications. The construction of counter-narratives reflected a transition of media discourse and power structure in a social system like China. Social media played a prominent role in facilitating the transition. By using social media to produce content in favor of their political and professional positions, celebrity physicians successfully circumvented the gatekeepers within the state-owned conventional media, and they had their voices heard by the public when they obtained a large amount of fans. On the surface, narratives created by celebrity physicians challenged the dominant discourse constructed by conventional media, breaking up popular myths that were favorable to the government. Of more importance, the new narratives had the potential to alter public perceptions on health, government, and culture, which could, ultimately, reshape the power relations at the societal level: celebrity

physicians expected the public to side with them and to push the government to make positive efforts to improve the health care services. In addition, social media has enabled health care professionals to connect with each other and to articulate issues of shared concern. This kind of articulation in cyberspace was hard to be fully controlled by the government. At the institutional level, although loosely structured, the circles connecting celebrity physicians and their fans were more powerful and influential than professional associations registered in real space, which challenged the dominance of the government in manipulating public opinions.

The technological features of social media were particularly important in a social context, like China, for the following reasons. First, due to their technological features, the government was much less powerful in controlling the content of social media (Stockmann, 2013), offering celebrity physicians a great opportunity to publish information that was averse to the government. In addition, gatekeepers in cyberspace only paid close attention to high-risk key words, most of which were purely political. Therefore, health-related issues were not on top of the authorities' agenda, leaving more spaces for celebrity physicians to present and to discuss the structural and institutional deficits of the current health care system. Nevertheless, celebrity physicians were extremely carefully when they posted on Weibo in order not to cross the red line: they often hid the key words that could reveal the identities of specific hospitals or clinics, and they avoided promoting offline activities such as demonstrations. These activities suggested, rather than directly confronting the government, celebrity physicians tried to achieve their political goals through carefully extending the boundaries of expression (Diamond & Plattner, 2012).

Second, the disputation of popular myths involved a lot of interactions between celebrity physicians, social media accounts of official press, and ordinary social media users. Textual analysis and interview results suggested a lot of discussions took place through retweeting back

and forth. Complicated social issues could not be fully explained without having direct conversations, and the conversations involving multiple parties could only be facilitated by social media. With conventional media, the information flow was unidirectional, in general, and the audience had little chance to present their opinions on news stories by giving feedback. The limitation of conventional media explained why health care workers had been dissatisfied with conventional media stories for years, but they had few chances to demonstrate their oppositions. On Weibo, official accounts for Peoples' Daily found no means to stop celebrity physicians from retweeting their posts, and celebrity physicians took the chance of retweeting to present their alternative opinions on the original post. Therefore, right after being posted online, the dominant narrative encountered criticism from celebrity physicians. The conventional narrative could no longer keep dominant in cyberspace, because its reliability was usually challenged by celebrity physicians, who addressed the social issues from a different aspect from that of the government. To ordinary social media users, when they read a tweet by Peoples' Daily, they often read follow-up comments made by celebrity physicians. Even though not all of them sided with doctors on these controversies, users were exposed to information from both sides, which was significant progress from being offered only one-sided information.

Finally, social media was important to the reconstruction of an ideal image of health care professionals. As celebrity physicians had noticed, the change could not take place in the short-term, and the change of public expectations for doctors was hard to achieve through writing a few articles in popular press. Even without censorship, the goal was hard to pursue with conventional media: from the journalistic perspective, mass media had no interest in doctors' personal lives that involved little public interest (Seale, 2004). In contrast, posting personal life stories was not in conflict with the notion of Weibo, because social media featured highly

personalized content production (Shao, 2007). Therefore, it was not surprising to see a lot of personal life stories on Weibo. Celebrity physicians attempted to create a notion that a good doctor could balance professional and personal life through presenting their followers with different aspects of their daily lives: like ordinary social media users, doctors earned their livings with their professional knowledge, but individually, they had different personalities and had highly diverse interests in leisure time. Celebrity physicians believed the combination of professional identity and personal identity had the potential to alter the long-established notion that having a fantastic personal life could prohibit one from becoming a good doctor.

The limitations of celebrity physicians' efforts. Overall, celebrity physicians had reached preliminary success in rebuilding a relationship of trust with their social media fans. Making a difference with young people could have a desirable social impact in the long-term, but it may not be able to contribute to an instant change to celebrity physicians' working environment. In comparison to conventional media, the Internet further fosters audience fragmentation and individualized information seeking (Wei, 2011), which results in people of low SES being less likely to use new media technologies. In the long term, the increasingly widened digital divide (Hughes & Wacker, 2003) and the uneven distributions of media resources in China (Pan, 2010) prohibited celebrity physicians from disseminating their information to those who needed this information the most.

Demographics of the survey respondents suggested they were mostly young, well-educated, and medium to heavy social media users, which was a small group among the large population. The demographics reflected the limitation of celebrity physicians' Weibo activities: even though social media enabled celebrity physicians to reach a population that was larger than patients, the fans' population was still limited due to the social and digital divide. The limited

reach also resulted from the general psychographic features of Internet users in China: in comparison to an average citizen, social media users in China tended to be younger and more politically opinionated (Lei, 2011).

Of more importance, this social group did not appear to be most hostile to health care professionals: survey results suggested the non-fans groups of the same demographics also reported neutral to positive attitudes toward doctors. In other words, even if they had never followed celebrity physicians online, fans might have some misunderstandings of health care professionals on a few medical and social controversies; but overall, they trusted health care workers and appreciated their contribution. Using the typologies created by Rodgers et al. (2007), fans were members of the health autonomous group and the health conscious group, who actively used the mass media for health-related information and had moderate to high levels of health literacy. Celebrity physicians only made their efforts to clarify the minor misunderstandings and enhanced the relationship of trust with users, who had a medium to high level of health literacy.

In contrast, those who did not have access to celebrity physicians' posts actually needed more reliable health-related and political information. In the interviews, celebrity physicians mentioned they received most distrust from patients from rural areas, with poor educational background, and low income. They also observed that older patients were less likely to fully trust conventional medicine than young patients. These people were most likely to comprise the health-uniformed and health at-risk groups, who were not active social media users and had a low level of health literacy (Rodgers et al., 2007). Therefore, an instant improvement of their working environment is not likely to occur, because celebrity physicians only reached a small group of people, and those who needed information most were not included in the group.

Therefore, celebrity physicians' online activities could hardly have any impact on them. Failing to reach these social groups was one of the primary limitations of use of Weibo.

Limitations and future research

One of the limitations of the study was that I failed to interview the Big-Vs, whose Weibo posts were being analyzed with textual analysis. I chose to analyze Big-Vs tweets, because Big-Vs had the most followers, and their tweets has most reader, so their content was representative enough to demonstrate a general picture of the dialogues between celebrity physicians and their fans on Weibo. Ideally, I could have obtained more profound information if I interviewed these Big-Vs. However, the top ranked Big-Vs did not respond to my online invitations, probably because they had been overwhelmed by interviews from influential media outlets and other important professional associations. I interviewed other celebrity physicians, who were not as famous as Big-Vs, instead. Interview data was reliable, because interview participants presented to be consistent with Big-Vs in terms of their professional, political, and cultural attitudes. Nevertheless, reading Big-Vs' posts and interviewing the same group of people could have better helped me explore the nuances involved in celebrity physicians' online activities.

The composition of survey respondents was another limitation of the research. The questionnaires were mainly distributed by interview respondents, and not all of them distributed in the way I expected. Even though I asked them to post the link on Weibo and to invite their Weibo fans to do the survey, some celebrity physicians shared the link via a mobile app, and some distributed the questionnaires to their friends and students via both online and offline channels. The inconsistency of survey distribution led to the fact that a considerable number of survey participants were not celebrity physicians' Weibo fans. I used the valid cases from non-

fans as a comparison group to fans. Besides that, distributing questionnaires via other channels could have altered the demographics and psychographics of survey respondents, which weakened the reliability of survey results.

Another limitation of this study is the survey methods. The items measured in the survey was a combination of previous literature and pilot findings from the textual analysis and interviews. Because factor analysis was not conducted to ensure the validity of these measures, survey results were not sufficient to make reliable predictions. Due to these limitations, survey results were primarily descriptive and exploratory. I used survey results as supplementary data to further explain the finding from the textual analysis and interviews, but survey data lacked theoretical depth and did not generate theories that could be used for future research.

Finally, the uses and gratifications approach assumed that audiences/users were active in media use (Rubin, 2009). The active audience assumption neglected the passive media use behaviors. Even though social media use is considered more active than the use of conventional media (Sundar and Limperors, 2013), it did not indicate that users always had clear goals when they used social media. Built upon the uses and gratifications framework, this study assumed that celebrity physicians and their fans played an active role in all kinds of Weibo activities they were involved. The assumption did not take into consideration the actions users performed as a daily routine or ritual. Besides that, because the interview methodology involved a process of theme seeking and narrative building (Baxter & Babbie, 2004), respondents were very likely to attribute new and socially desirable meanings to their social media activities, even if they did not have such clear intentions in reality. Therefore, findings of this study could have overemphasized the “active” aspects of celebrity physicians’ social media use.

The study focused on the political and cultural elements shaping the relationship between celebrity physicians and their Weibo fans, but it did not explore in depth into the commercial forces driving celebrity physicians' online activities. A few interview participants had observed increasingly close connections between commercial groups and Big-Vs in recent years, but they had little idea about how that really worked. To better explore the interplay between capital and celebrity physicians, future researchers could try to interview Big-Vs to learn how they treated the requests from various commercial forces. Theories such as political economy could help explain the phenomenon. In addition, the study did not deeply probe into the cultural values of fans. Even though interview and survey results suggested a potential conflict in cultural values between celebrity physicians and their fans, the findings were not sufficient to interpret the nuances that influenced their interactions. Future research could further explore the phenomenon and better interpret the role of culture in mediating celebrity-fan relationships.

This study identified the interplay between three types of connections, and in this case, the unstable celebrity-fan relationship was consolidated by well-developed expert-layperson and opinion leader-public connections. Future research could examine other possible interplays between the multiple relationships connecting two groups of people.

Findings of this study can also be used to examine and predict the online activities of similar social groups in China, such as teachers, police officers, civil servants at the grassroots level, community service staff, etc. These groups share a lot in common with health care professionals. First, they are all affiliated to state-owned public institutions, whose roles were often described as providing public good and serving the people. They face similar dilemmas due to their close and difficult-to-break connections with the government. On the one hand, the public often considered them to be a part of the government and had high and unrealistic

expectations for them. On the other hand, to please the public and to avoid triggering direct conflicts with the government, officials often issue administrative orders to pressure them to perform unreasonable tasks and sacrifice their due needs. Like health care professionals, the unfair treatment on them has been rarely discussed in conventional media, but their voices are much stronger in cyberspace. For example, on Weibo, teachers complained that in order to build good reputation, local authorities forced elementary schools to accept more students than they could afford, but the government later blamed teachers for not spending enough time taking care of all the students. The dilemma described by these teachers was very similar to the situation celebrity physicians were facing. These social groups have strong desires to address their concerns and construct counter- or alternative narratives to fight for their rights. Social media like Weibo can serve as a platform for them to build virtual associations like celebrity physicians and their fans, which is a rising social force that challenges the dominant discourse constructed by the government.

Second, these social groups are all composed of professional workers who have expertise in particular fields. Like celebrity physicians, they have the potential to accumulate a large group of fans because users are in need of professional knowledge to solve real world problems. For example, a group of police officers from Jiangning District, Nanjing, created a Weibo account called Jiangning Police Online (*Jiangning Gong'an Zaixian*) to teach the public how to avoid fraud and to live in a safe way. Within a few months, the unofficial account had obtained thousands of fans due to the helpful information it provided and the humorous delivery. The voluntary work of professional workers has the potential to gather a large group of fans together in cyberspace to articulate and address public concern. The process circumvented governmental

control and gatekeepers from conventional media, which helped produce a different narrative that was in favor of professional workers.

In a country with a long cultural tradition, professional groups were very likely to encounter challenges and even hatred when they expressed their opinions on traditional issues from a contemporary perspective. This could be a major challenge to the building of their reputation with the public. Celebrity physicians' efforts to discourage the public from using TCM appeared to be a failure at this stage, but cases varied greatly across areas of concern. Culture and nationalism could have played an important role in other types of conflicts, and they are worth exploration. For example, lawyers and judges trained in the Western legal system attempt to promote litigation in China, but they encountered strong resistance from both the public and the authorities because mediation was considered a more culturally acceptable approach in addressing legal issues (Fu & Cullen, 2011). Future research could apply the methods and findings of this study to further explore the conflicts rooted in similar causes.

Conclusion

This chapter discussed the features and the implications of three types of connections between celebrity physicians and their fans: doctor-patient, opinion leader-public, and celebrity-fan. Each type of relationship presented certain features that were unique in the celebrity physician phenomenon. The intertwining of different types of relationship within a social network comprised of celebrity physicians and their fans suggested that social media have blurred the boundaries of different types of connections, and the new features of these relationships presented in this study indicated the complexity of virtual social networks.

Celebrity physicians and their social media fans transferred a conventional doctor-patient relationship from real space to cyberspace. Online conversations suggested that celebrity

physicians played a dominant role in producing and explaining medical knowledge, and fans mainly accepted all these information without skepticism. This was a typical hierarchical doctor-patient relationship built upon a high level of trust between doctors and patients. The celebrity physician phenomenon also suggested that a social media site for general purposes such as Weibo could be a platform to convey the dialogues between medical experts and the general public. Medical experts perceived the general social media site to be more advantageous than websites specifically designed for medical usage because they could reach a larger population and cultivate a higher level of public health literacy in the long term. These findings suggested the potential of the “professional use” of general social media sites.

In addition to disseminating and receiving medical knowledge, celebrity physicians and other social media users built and maintained virtual social networks to address issues of public concern. In these conversations, celebrity physicians were opinion leaders who initiated debates over public controversies and promoted collective actions. Like other dissident groups, celebrity physicians’ online activities could have profound social impact. They built counter-narratives that challenged the dominant discourses about the public health system, and promoted civic activities both online and offline. Of more importance, unlike the opinion leaders in previous public controversies who primarily emphasized the rights of individual victims, celebrity physicians were more concerned about the need of the government to make systematic changes. By promoting concepts such as professionalism, free press, modernization, law enforcement, and litigation, celebrity physicians and their fans attempted to contribute to positive social change at the macro level. This kind of long-term vision differentiated celebrity physicians, a group of opinion leaders with professional knowledge, from ordinary social activists.

When facing a conflict between their professional identities and their identities of being celebrities, celebrity physicians prioritized their identities of being medical experts, which could explain their unusual behaviors within the celebrity-fan relationship. Due to their professional training within the conventional medicine discipline, celebrity physicians had negative attitudes toward the use of TCM. However, they failed to create a sound discourse about TCM that could effectively discourage their followers from using TCM. Their radical claims about TCM had initiated a large amount of unpleasant conversations with their fans, which could have ended a conventional celebrity-fan relationship. However, fans kept following celebrity physicians even if they did not always appreciate celebrity physicians' opinions about TCM. The phenomenon could be explained by the fact that the widely recognized roles of being medical experts and opinion leaders have made up for the weak celebrity-fan relationship. These findings demonstrated the multiple connections that contributed to the formation of a virtual social network, in which different types of relationships complement each other.

CHAPTER 7

CONCLUSION

This study explored Chinese celebrity physicians' motivations for and gratifications obtained from establishing a professional presence via social media, examined the online conversations between celebrity physicians and their social media fans, and discussed the potential medical, political, and cultural outcomes of celebrity physicians' online activities. By examining the online interactions between celebrity physicians and their social media followers, the study 1) further explored the uses and gratifications of cyberspace; 2) examined the multiple connections that contributed to the formation of a social network comprised of health care professionals and ordinary users; and 3) revealed the tension between different cultural values in the context of China.

The study expanded current scholarly understandings of the uses and gratifications of social media. First, it explored the sociological origins of media use. The study revealed that in addition to the social and the political context, users' professional backgrounds and their personal perceptions of social problems also contributed to media use. Celebrity physicians' online activities were primarily driven by their dissatisfaction with the health care system, and this dissatisfaction was rooted in the social context. The content they produced and the ways they interacted with social media users reflected celebrity physicians' needs to address a considerable number of public concerns, including the low level of public health literacy, biased media representations of the medical profession, and conflicts with the government that were suppressed by conventional media. In comparison to individuals' psychographic motivations, sharing similar sociological origins of media use had more profound implications because it could gather a group of people together and build social networks to pursue shared goals. These

findings further exemplified the sociological origins of media use, and they revealed the sociological factors that shaped the celebrity physician phenomenon in China. Future researchers could use the sociological factors identified in this study to explore the use of social media by other professional groups in China and in areas with similar social contexts and to predict the potential outcomes of social media use by professional groups in authoritarian regimes.

Second, the study observed an interplay between media use motivations and gratifications. That is, media use gratifications could have reshaped media use motivations. Interview results suggested that celebrity physicians used Weibo as ordinary social media users at first, but they gradually noticed that their professional identities were important to a lot of other users. As they obtained more followers, celebrity physicians were more aware of their identities as health care professionals and insiders of the health care system. They were increasingly motivated to disseminate medical knowledge and address their political concerns. The gratifications celebrity physicians' observed from their followers in turn reinforced their media use motivations. At this point of the study, the celebrity physicians all claimed that their primary media use motivations were to offer medical knowledge and to fight for their political rights, but they did not appear to have such a clear goal of presenting their professional identities on social media initially. Being recognized by social media followers could have taken the place of more trivial gratifications, such as entertainment and relaxation, which encouraged celebrity physicians to more actively present content that was appealing to their fans. The process suggested that media use motivations could be cultivated by the gratifications obtained, and users were able to identify new motivations during the media use process. The trend indicated that media use motivations and gratifications had become more nuanced and specific with new media (Sundar & Limperos, 2013). At the theoretical level, the findings also suggested the importance of revisiting media use

motivations and gratifications in social media activities: the distinction between motivations and gratifications has become increasingly vague, and in cases like celebrity physicians, motivations and gratifications intertwined with each other in the long term. This kind of fluidity in motivations and gratifications could be more prominent in Internet use because users had more power to control how they used the medium. The findings expand the current U&G framework: in addition to applying the U&G approach to other realms of media and communication research, future scholars could further explore the internal dynamics between media use motivations and gratifications.

Finally, the online activities of celebrity physicians and their social media fans indicated the power of entertainment and professionalism. Even though social media fans began to follow celebrity physicians primarily to seek information and entertainment, their follow-up activities suggested that they ultimately did much more. Rather than solely providing something fun, entertaining messages from celebrity physicians became a tool that attracted more followers. In other words, entertainment was more than a motivation for and gratification obtained from media use, it contributed to the expansion of social networks. In addition, celebrity physicians were neither industry-produced stars who interacted with the public to make a profit, nor health campaigners who were designated to advocate for medical issues. Instead, their online activities were completely voluntary and were not arranged by any group or association. Professionalism, including a shared understanding of the medical profession and the current health care system, contributed to the connection of different celebrity physicians, which enabled collective action in cyberspace.

Besides further exploring the uses and gratifications of social media, this study probed into the complexity of virtual connections via social media. Social media blurred the boundaries

between different types of connections. The study found that the connections between celebrity physicians and their social media fans exhibited features of three types of relationship: celebrity-fan, doctor-patient, opinion leader-public. These connections were built upon different types of media use motivations and had profound implications. To be specific, the celebrity-fan relationship was established due to fans' need to relax and be entertained. The doctor-patient relationship was maintained because celebrity physicians found themselves obligated to provide medical information, and their social media fans were eager to obtain this information. The opinion leader-public relationship was formed because of both parties' dissatisfaction with the health care system: celebrity physicians attempted to rebuild their professional reputation and to seek public support from social media users, and fans also had a strong interest in complaining about the system and thinking of solutions to address their grievances. These varied connections reflected the complexity of online interactions.

Accordingly, fans played multiple roles within the online social network. In this case, celebrity physicians were experts, who disseminated health-related knowledge, and opinion leaders and activists, who initiated and proposed political deliberation about the health care system. Additionally, celebrity physicians presented both their public and private lives to their fans. These roles were not equally recognized by their social media fans: celebrity physicians dominated the doctor-patient relationship, received both support for and challenges to their opinions about the health care system, and were often attacked due to their opinions on TCM.

The exploration of the multiple connections between celebrity physicians and their social media fans expands scholarly understandings of online relationships. For each type of connection, the study demonstrated its new features in cyberspace. In terms of the doctor-patient relationship, the celebrity physician-fan connections suggested that the traditional fiduciary relationship

between doctors and patients could be transferred into cyberspace. The online doctor-patient relationship maintained a conventional hierarchical model, in which doctors played the dominant role in producing and explaining medical information. Besides reflecting the features of a conventional doctor-patient relationship that have been examined by previous literature, the findings of this study indicated that the “patients” within the online doctor-patient relationship could be a much broader and vaguer population than the patients who had particular medical concerns. Instead, celebrity physicians viewed their followers as potential patients, and rather than merely addressing particular medical concerns, they believed that conveying health-related knowledge to these potential patients could increase public health literacy in the long term. Their long-term goal suggested that, in addition to carrying out large-scale campaigns, health care professionals have become aware of the power of a general social media site like Weibo in promoting desirable health-related outcomes.

Within the virtual social network, celebrity physicians were mainly the opinion leaders on various political issues. As previous scholarly works have predicted, social media enabled celebrity physicians to produce narratives that went against the dominant discourse, which could alter public perceptions of the health care system and the government. Although not using Weibo for purely political purposes, celebrity physicians and their fans deliberated about some profoundly political issues of public concerns, and their efforts resulted in small changes in public opinion and in the conventional media discourse. However, the online activities of celebrity physicians and their social media followers presented some new features. First, fans played a much more important role in supporting celebrity physicians. Second, celebrity physicians and their fans called for social change at the macro and legislative level, rather than merely addressing a few individual cases. Finally, celebrity physicians’ professional knowledge

and their capacity of presenting their pursuits improved the quality of online conversations. These features suggested that as a rising social force, celebrity physicians and their fans were distinct from their social media ancestors, who gathered together for a particular case and pressured the government to make changes through sensational approaches. As opinion leaders, celebrity physicians presented more knowledge and a more long-term vision than a random group of activists.

Social media users contested celebrity physicians' opinions on TCM most, which was a big threat to the conventional celebrity-fan relationship. Receiving a tremendous amount of criticism about their attitudes toward cultural issues often indicated the end of the relationship. However, celebrity physicians were still able to remain popular among their fans even though the majority of their fans disagreed with them on cultural issues, such as TCM. The phenomenon indicated that their roles as experts and opinion leaders made up for their imperfect roles as celebrities. These roles did not create an identity conflict, but they enhanced the connections with their social media fans. Unlike a conventional celebrity-fan relationship, which celebrities' personalities and opinions played a crucial role in maintaining, celebrity physicians managed to preserve the connections with the medical and political information. The phenomenon indicated the development of an alternative celebrity-fan relationship, in which celebrities presented multiple identities.

Another factor that made the celebrity-fan relationship unique was that celebrity physicians did not highly value their identities as celebrities. Due to the multiple roles they played on social media, celebrity physicians were very likely to encounter identity conflicts, especially the conflict between being medical experts and celebrities. The conflict was mostly presented in debates over TCM. The study identified that, instead of pretending to be neutral to

avoid annoying their fans and potential fans, celebrity physicians clearly stated their positions and made judgments based on their professional knowledge. They did not appear to worry that they could lose a considerable number of fans. The phenomenon showed that celebrity physicians were inclined to play the role of medical experts who were influential to a certain population, rather than celebrities who had medical knowledge.

The study also presented the tension between modern notions and traditional cultural values, and in this case, that tension was evident in controversies over the use of TCM. The conflicts between modernists and the public that occurred one century ago reappeared in these online debates. The incompatibility between conventional medicine and TCM could not sufficiently explain the phenomenon. The online interactions between celebrity physicians and their followers appeared to be self-contradictory: the vast majority of the fans accepted conventional medical knowledge, but a considerable portion of them disagreed with celebrity physicians on the abolishment of TCM. Online dialogues suggested that people insisted upon the preservation of TCM because they viewed it primarily as a part of their cultural heritage, but celebrity physicians were more likely to view it as an unreliable and outdated medical approach. Therefore, the sense of nationalism prohibited celebrity physicians from successfully persuading their followers. The case further exemplified the impact of cultural traditions and nationalism on public perceptions of health and conventional medicine.

Revealing the controversies surrounding TCM in cyberspace had profound practical and theoretical implications. From the practical perspective, the study revealed the way cultural traditions inhibited the promotion of modern medicine, which was not adequately addressed by health communication studies that were primarily conducted in a Western context. The failure of celebrity physicians to discourage fans from using TCM was a lesson to future health

campaigners, especially those who would conduct campaigns in areas with long cultural traditions and a high level of nationalism. Exclusively applying the knowledge and the rhetoric derived from modern science did not appear to be effective in promoting certain scientific knowledge; instead, this could be offensive to local citizens, especially nationalists. Experts who had a strong desire to guard their profession, such as Chinese celebrity physicians, were not an optimal group to do the job because they could easily push their potential audiences to the opposite side. A better way to advocate scientific knowledge that went against local cultural traditions could be to take into account both the scientific and the cultural perspectives in campaign messages. Campaigners could avoid conflicts with their conservative audiences by building milder discourses instead of making radical claims about science. Nonetheless, the activities of modern celebrity physicians and their predecessors in the early 1900s suggested that advocating science without depreciating cultural traditions remained a challenging task to scientists and experts.

From the theoretical perspective, debates over TCM were an example of a local culture's resistance to foreign ideas, which reflected the difficulty of cultural convergence. Even though theories of globalization and cultural hybridization have presented ways in which different cultural elements either become hybrid or co-exist locally, the TCM controversies suggested that the acceptance of new values and the adaptation of local customs were not always that easy. TCM was a type of local culture that proved to be very powerful in resisting the impact of foreign culture because it had a consistent theory with which to defend itself and profound nationalistic meanings, such as being regarded as "the wisdom of China". Essentially, the conflict between conventional medicine and TCM was not a conflict between two incompatible medical approaches. Rather, users were more likely to perceive it as a conflict between foreign

notions and cultural traditions. The fact that TCM won tremendous popular support reflected the power of nationalism in resisting the adaptation of new ideas. This study did not attempt to predict how the debates would go in the future, and it did not advance an argument about the superiority of either conventional medicine or TCM. Instead by analyzing the activities of different parties involved in the debates, this study revealed the nuances involved in cultural conflicts and demonstrated the complexity of cultural adaptation. The findings of this study went beyond the straightforward quantification of cultural differences proposed by Hofstede (2000) and presented an example case for future qualitative research in intercultural communication.

In conclusion, by analyzing Chinese celebrity physicians' online narratives and examining the factors that shaped their online activities, the project further explored the sociological factors contributing to digital media use, revealed the multiple connections contributing to the formation of virtual social networks comprised of celebrity physicians and their social media followers, and studied the presentation of cultural tension in cyberspace. From the practical perspective, future scholars and advocates could use the findings of this study to better design health/science campaigns. From the theoretical perspective, this study expanded the scope of the Uses and Gratifications approach, proposed new angles for examining the doctor-patient and the celebrity-fan relationships, and discussed the online presentation of, and the inherent nuances contributing to, cultural conflicts.

APPENDIX A MAJOR INTERVIEW QUESTIONS

I noticed that you wrote a long tweet introducing (a certain kind of disease) recently, did you write it yourself? (Or why did you retweet this particular users' post?)

I browsed your Weibo homepage and found you established your account in year 20XX, and now you have X (number) followers. I'm curious to ask why did you decide to present your professional identity? (Why did you write you are a doctor in your ID?)

How long did you spend writing the long tweet? How often do you post tweets like this?

What kind of feedback do you usually get from your followers about these tweets?

What are the advantages of the Internet being a channel of disseminating medical information?

What are the disadvantages of the Internet being a channel of disseminating medical information?

I noticed that you retweeted a news story about XXX. Why did you retweet it?

What kind of feedback do you usually get from your followers?

Do you answer their follow-up questions about the news? (Why/why note?)

How did you respond to your fans' feedback?

What kind of feedback do you like most? What kind of feedback do you hate most?

Under what circumstances will you write your followers back?

Have you ever identified any "trolls" in your fans? How did you handle them?

What's your opinion on TCM?

How often do you post information about TCM? Are your fans pro-TCM or against-TCM?

How do you communicate with those who don't agree with you on the perceptions of TCM?

Has obtaining XXX fans impacted your life in real space? (In what ways?)

(At certain point of the interview, the participant mentioned the doctor-patient relationship)

Do you think the doctor-patient relationship is good/bad? Why?

What caused the (bad) doctor-patient relationship?

What is the best approach to addressing the problem?

What do you think you can do to improve the doctor-patient relationship?

What is an ideal doctor-patient relationship to you? Is it to be possible to be built in China? (How could it be built?)

(At certain point of the interview, the participant mentioned government's running of the health care system)

Do you like the current health care system? (Why/why not?)

Does the government play a responsive role in managing the health care system?

What do you like most about the health care system?

What do you hate most about the health care system?

What is an ideal health care system to you?

APPENDIX B IMPORTANT SURVEY QUESTIONS

All the respondents were asked to indicate their opinions using a 5-point Likert scale.

Score range: 1-5

Attitudes toward TCM

	Mean	Standard deviation	Number of respondents
Traditional Chinese Medicine is effective in treating all types of diseases.	3.07	0.82	393
Traditional Chinese Medicine is effective in treating all chronic diseases.	3.36	0.91	393
Traditional Chinese Medicine has little side effect.	3.11	0.95	392
Traditional Chinese Medicine formulas are safe.	3.00	0.94	393
I use traditional Chinese Medicine formulas when necessary.	3.15	0.92	392
Overall, I think the use of Traditional Chinese Medicine should be encouraged.	3.41	0.82	393

Doctor-patient relationships

	Mean	Standard deviation	Number of respondents
Nowadays, doctors charge too much for their service.	3.51	1.14	386
It is understandable for family members to blame doctors if the patient does not get recovered after being treated.	3.26	0.92	389
The doctor-patient relationship is bad these days.	3.41	0.80	389
I think doctors in China are not ethical.	2.65	0.71	391
I think doctors' reputation is declining nowadays.	3.32	0.89	388
Doctors' being morally corrupted is the main reason that contributes to the intense doctor-patient relationship.	2.75	0.87	390
Patient's lack of education is the main reason that contributes to the intense doctor-patient relationship.	3.01	0.76	392

(Continued)

The government was primarily responsible for the current problems in the health care system.	3.29	0.85	392
In most cases, I trust doctors when I visit doctors.	3.60	0.72	392

Only fans were asked to answer the following questions

How long have it been since you followed the first celebrity physician?

Time	Frequency	Percentage (%)
Less than one year	40	17.9
One to two years	38	17.4
Two to three years	71	67.0
Three to four years	57	25.4
More than four years	17	7.6
Total	223	100

How many celebrity physicians do you follow on Weibo?

Number	Frequency	Percentage (%)
Missing	2	0.9
One	72	32.6
Two	94	42.0
Three	37	16.5
Four	5	2.2
Five	2	0.9
More than five	11	4.9
Total	223	100

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