

## **NGOs' HIV/AIDS Discourse on Social Media and Websites: Technology Affordances and Strategic Communication Across Media Platforms**

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Nongovernmental organizations (NGOs) play a pivotal role in combating HIV/AIDS. Yet research on the social construction of HIV/AIDS has investigated the discourse of the government, media, and the public but not NGOs. Drawing on the technology affordance framework, this study examines NGOs' discourse on social media and websites in China to understand how they communicate HIV/AIDS issues. Results of semantic network analysis reveal overlapping themes about HIV/AIDS across social media and websites, including promoting public policy, public education, and social support. Additionally, NGOs leverage social media to mobilize various institutional and community health care resources and highlight their engagement with the government. This study underscores the pivotal role of NGOs in HIV/AIDS prevention, treatment, and destigmatization. It also advances the technology affordance literature by shedding light on the convergent yet distinct affordances of different digital media for strategic health communication and the constraints of the sociopolitical context on organizations' communicative practices.

*Keywords: affordances, HIV/AIDS, nongovernmental organization (NGO), semantic network analysis, information and communication technologies (ICTs), health communication, discourse, social media, China*

HIV/AIDS is a major contributor to the global burden of disease. Approximately 36.9 million people worldwide were living with HIV by the end of 2017, with 1.8 million new infections in 2016 (World Health

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Organization, 2018). Because of the lack of an effective cure, HIV is the sixth leading cause of global death (World Health Organization, 2018) and the leading cause of death by infectious disease in China (National Health Commission of China, 2018). Various organizations, including governments, nongovernmental organizations (NGOs), and intergovernmental organizations, seek to ameliorate the human suffering created by this epidemic (Yang & Taylor, 2014; Yu, 2012). Among these organizations, NGOs play a pivotal role in delivering health care and interventions (Doyle & Patel, 2008), combating stigma (Kaufman, 2012), and mobilizing collective action (Loudon, 2010). In particular, NGOs are crucial actors "in the creation of communicative spaces and as communicative agents of change" (de Souza, 2009, p. 699).

Scholars have regarded HIV/AIDS as a social construction reproduced and constituted by discourse (Rosenberg, 2009; J. Zhang & Ding, 2014). Previous research has tended to focus on the HIV/AIDS discourse of the media (e.g., Dong, Chang, & Chen, 2008; Ren & Simpson, 2017; Wu, 2006) and the public (e.g., Guo & Goh, 2014; J. Zhang & Ding, 2014) while overlooking the communicative practices of NGOs. Yet NGOs' discourse is a vital part of the framing of HIV/AIDS and the social agenda of those who combat its ravages (de Souza, 2007). Examining NGOs' discourse can deepen our understanding of the ideologies about HIV/AIDS in particular institutional contexts (Lupton, 1992). This is especially salient in China's restrictive political context, where HIV/AIDS remains a sensitive topic (Spires, 2011). Therefore, China offers an interesting context for investigating NGOs' discourse on HIV/AIDS.

Given that NGOs increasingly utilize digital media to disseminate health information and engage with their stakeholders (Ems & Gonzalez, 2016; Loudon, 2010; Young, Tully, & Dalrymple, 2018), this study explores the themes emerging from NGOs' discussions around HIV/AIDS on social media and websites. Drawing on the technology affordance framework (Nagy & Neff, 2015; Rice et al., 2017; Treem & Leonardi, 2013) and employing semantic network analysis (Jiang, Barnett, & Taylor, 2016; Yuan, Feng, & Danowski, 2013), this study seeks to understand NGOs' discourse on HIV/AIDS across media platforms through a comparative lens. According to the technology affordance framework (Rice et al., 2017; Treem & Leonardi, 2013), organizations leverage different material and functional features of ICTs to achieve distinct goals. Previous research on HIV/AIDS, however, has primarily examined discourse on a single media platform (e.g., Mo & Coulson, 2008; J. Zhang & Ding, 2014) and lacks direct comparisons to untangle the affordances of different digital platforms. To address this research gap, this study compares NGOs' discourse on websites and social media to understand how their communicative practices are enabled and constrained by the affordances of ICTs in China.

This study makes three important contributions. First, it fills a gap in prior work that focuses on either the mainstream (i.e., government, media) discourse or public (i.e., individual) discourse on HIV/AIDS and therefore contributes to a more holistic understanding of how various social actors communicate a health issue. Second, by comparing NGOs' discourse on social media and websites, this study sheds light on the convergent yet distinct affordances of different ICTs for strategic health communication. Finally, this study highlights the constraints of the sociopolitical context on organizations' online communicative practices, contributing to a context-rich understanding of the implications and affordances of ICTs.

### **HIV/AIDS in China and the Critical Role of NGOs**

According to the Chinese Center for Disease Control and Prevention (2018), more than 820,000 people are living with HIV and at least 250,000 people have died from the disease. Of the new HIV cases reported in 2018, 93.1% resulted from sexual interactions, with male same-sex of particular concern. However, illegal blood trade, blood transfusion, and drug use have caused many existing cases due to lower awareness of risk and unclean practices in the 1980s and 1990s (Z. Wu, Liu, & Detels, 1995).

In China, three obstacles inhibit the public's understanding about HIV/AIDS: (1) the central government's long failure to admit the disease had afflicted people, (2) official censorship that limits the flow of information, and (3) local governments' attempt to cover up HIV/AIDS cases (Huang, 2006). The government often stifles discussion around HIV/AIDS because of the disease's links to the blood trade, homosexuality, medical malpractice, and the sex trade, which are considered antithetical to constructing a harmonious society (Yu, 2012). As some scholars argue, HIV/AIDS has become as much a social, political, and human rights problem as an epidemiological issue in China (Gu & Renwick, 2008; Huang, 2006).

Against this backdrop, NGOs play a pivotal role in the battle against HIV/AIDS in China. In particular, NGOs help combat discrimination, promote public policy, and raise public awareness (Gu & Renwick, 2008). Furthermore, NGOs have contributed to the state's adoption of international norms for addressing the epidemic (Kaufman, 2012) and dealt with health education areas that government authorities do not wish to address (Xu, Zeng, & Anderson, 2005). Notably, NGOs have helped to protect the rights of people living with HIV/AIDS (PLWHA) in many respects (Huang, 2006).

### **Media and Public Discourse on HIV/AIDS in China**

Rosenberg (2009) views illnesses as a social construction—an expression that varies across regions and cultures. Social constructionism emphasizes the fundamental role of language use and communicative practices (Herek, Capitanio, & Widaman, 2003), positing that "language does not mirror reality; rather, it constitutes it" (Fairhurst & Grant, 2010, p. 174). Thus, discourse can help researchers to, as J. Zhang and Ding (2014) argue, "deconstruct the medical reasoning that forms a central part of the illness experience" (p. 1416).

In China, the state media (e.g., *People's Daily*) dominates the discourse on HIV/AIDS. The state media serves as the mouthpiece of the government to defend its legitimacy, political order, and social harmony; it has generally served the state by highlighting the government's commitment to prevent the spread of HIV/AIDS and to the bright future of PLWHA under the authority's leadership (Dong et al., 2008; Wu, 2006). At the same time, it stigmatizes PLWHA. Since the earliest days of the epidemic in the 1980s, Chinese state media has portrayed HIV/AIDS as a consequence of decadent, capitalist lifestyles, arguing that communism calls for strict monogamy in the context of heterosexual marriage, which would have prevented the epidemic (Huang, 2006). As a result, PLWHA have been subject to a great deal of discrimination, social ostracism, and even violence (Gu & Renwick, 2008; Kaufman, 2012). Official media portrays the Chinese government as competent and caring and PLWHA as sanguine about their condition, grateful for government support, and not stigmatized (Wu, 2006). However, a recent study indicates that

Chinese mainstream media still stigmatizes HIV/AIDS, portraying it as demonic and PLWHA as threats to public health (Ren & Simpson, 2017). Consequently, PLWHA are banned from government jobs, and students whose HIV status is known by their school are sometimes expelled or pressured to leave (Wang, 2016). The long-standing discrimination has compelled PLWHA to conceal their infectious status, resulting in delays in seeking health care (Ren & Simpson, 2017). As Dong et al. (2008) contend, “the political nature of Chinese AIDS stories . . . convey[s] a normative sense of the authority’s effort to control the disease, but not its failure to tackle the problem aggressively or its attempt to cover it up” (p. 368).

However, ICTs provide new opportunities to extend the HIV/AIDS discourse beyond mainstream media coverage. In particular, Chinese social media Weibo (similar to Twitter) encompasses multiple public spheres where people engage in a wide array of discussions (Rauchfleisch & Schäfer, 2015). The anonymity and lack of verbal cues in online communication lessen the barriers to and risks of disclosing one’s stigmatized conditions to others (Tidwell & Walther, 2002). This has sparked much research on the online narratives of PLWHA and high-risk groups in China (e.g., Guo & Goh, 2014; Mo & Coulson, 2008; J. Zhang & Ding, 2014). For example, Shi and Chen (2014) discovered that Weibo facilitated the exchange of social support—in particular, informational support—among PLWHA. More importantly, ICTs may help Chinese NGOs disseminate information, build communities, mobilize resources (Zheng & Yu, 2016; Zhou & Pan, 2016) and foster public discussion about sensitive issues that could not be discussed in mainstream media (Rauchfleisch & Schäfer, 2015).

Despite the pivotal role of NGOs in fighting HIV/AIDS (Gu & Renwick, 2008; Kaufman, 2012; Xu et al., 2005), research on NGOs’ discourse is scarce. Moreover, NGOs’ voices are largely marginalized in China, while the government’s voice and actions dominate the mainstream media (Dong et al., 2008; Ren, Hust, & Zhang, 2014). In this sense, China offers an interesting case for exploring the social construction of HIV/AIDS by NGOs. Previous research suggests that Chinese NGOs primarily use websites and social media to engage with their stakeholders (Yang & Taylor, 2010; Zhou & Pan, 2016). Thus, we seek to understand NGOs’ discourse on HIV/AIDS by asking:

*RQ1: How do NGOs discuss HIV/AIDS on Weibo in China?*

*RQ2: How do NGOs discuss HIV/AIDS on their websites in China?*

### **NGOs’ HIV/AIDS Discourse on Social Media and Websites**

Much research on organizational ICT use has adopted an affordance lens (Rice et al., 2017; Treem & Leonardi, 2013). Technological affordances refer to the “action possibilities and opportunities that emerge from actors engaging with a focal technology” (Faraj & Azad, 2012, p. 238). The technology affordance framework posits that actors’ use of ICTs depends on (1) ICTs’ features and functional capabilities (i.e., materiality), (2) users’ needs and goals, and (3) the usage context (Nagy & Neff, 2015; Rice et al., 2017; Treem & Leonardi, 2013). The affordance framework highlights the imbrication of the material aspects of ICTs and how people perceive and use ICTs, such as knowledge sharing (Leonardi, 2011). Based on this notion, Rice and colleagues (2017) have identified six organizational media affordances: pervasiveness, editability, self-presentation, searchability, visibility, and awareness.

The affordances of different ICTs prompt organizations to use different media platforms in unique ways; hence, organizations' communicative practices may vary on different platforms. For example, D. Kim, Chun, Kwak, and Nam (2014) have found that NGOs use Facebook and Twitter to supplement particular dialogic features that are limited on websites. This finding aligns with other studies highlighting the unique affordances of social media (e.g., visibility, awareness, interactivity) in one-to-one communication (Ems & Gonzalez, 2016), community building (Lovejoy & Saxton, 2012), and collective action (Zheng & Yu, 2016). As such, organizations may use social media and websites to achieve distinct goals (Ems & Gonzalez, 2016; D. Kim et al., 2014).

Similarly, prior studies reveal the similarities and differences in Chinese NGOs' use of social media and websites. This line of research suggests that Chinese NGOs use both websites (Yang & Taylor, 2010) and social media (i.e., Weibo; Zhou & Pan, 2016) to disseminate information and publicize projects and activities. However, NGOs use social media for more than one-way information dissemination. The material and functional features of social media make it easier for NGOs to engage with the public, build community, and foster public discussion (Ruelle & Peverelli, 2017). Social media also allows NGOs to publish sensitive information and bypass state censorship and information control in traditional mainstream media (Rauchfleisch & Schäfer, 2015). This feature has prompted Chinese NGOs to use social media—particularly Weibo—for resource mobilization and collective action (Zheng & Yu, 2016).

In sum, organizations may use different ICTs that provide related affordances (Rice et al., 2017). And research has revealed the distinct affordances of social media and websites for organizations' communicative practices. Given the convergent yet distinct affordances of Weibo and websites, we compare NGOs' HIV/AIDS discourse on Weibo with that on their websites by asking:

*RQ3: What are the (a) similarities and (b) differences of NGOs' HIV/AIDS discourse on Weibo and websites?*

### **Semantic Network Analysis**

This study employs semantic network analysis—the study of the “co-occurrence of words in text” (Shumate & Contractor, 2013, p. 453)—to understand NGOs' HIV/AIDS discourse. Communication scholars have employed semantic network analysis to examine various issues on different media platforms, such as the framing dynamics on traditional news media (e.g., Jiang et al., 2016; Qin, 2015; Schultz, Kleinnijenhuis, Oegema, Utz, & van Atteveldt, 2012), public manifestations on social media (e.g., Qin, 2015; Yuan et al., 2013), and science communication on websites (e.g., J. Kim, 2012). This line of research suggests that discourse and texts allow researchers to understand the frames individuals and organizations build within a particular institutional context.

Semantic network studies have identified differences in framing strategies across social groups (e.g., J. Kim, 2012), media platforms (e.g., Qin, 2015), and institutional contexts (e.g., Schultz et al., 2012). For example, Qin (2015) finds that traditional news media and social media have distinct discourses on Edward Snowden, manifested in their word selection and word salience. To gain insight into how NGOs

communicate HIV/AIDS in China, this study employs semantic network analysis techniques to ascertain the words and concepts that NGOs use, the frequency of selected words, and their interrelationships.

### **Method**

#### **Sample**

We extracted a list of NGOs working in the HIV/AIDS domain from the Beijing Civil Society Development Research Center (<http://www.cdb.org.cn>), a prominent data source on NGOs in China (see Fu & Shumate, 2016). To create a comprehensive sample of NGOs, we supplemented this list with data from the China HIV/AIDS Information Network (<http://new.chain.net.cn/index.html>), from which researchers often draw lists of HIV/AIDS NGOs in China (Wong et al., 2009). We identified 68 NGOs working on HIV/AIDS in China.<sup>2</sup> Among these, 19 organizations had Weibo accounts (27.94%) and 40 organizations had websites (58.82%).<sup>3</sup> Compared with NGOs working in other social issues (Zhou & Pan, 2016), the relatively low prevalence of Weibo use among HIV/AIDS NGOs suggests that HIV/AIDS remains a sensitive issue in China.

#### **Procedure**

We used Python to scrape all texts, including articles and image captions, from the 40 NGOs' websites. We also gathered the 19 organizations' Weibo posts (including reposts) from their registration date to May 31, 2016, using a Python Web crawler. The crawler parsed all HTML information on each Web page for all 19 organizations' Sina Weibo Mobile accounts.<sup>4</sup> In total, 66,900 Weibo posts were collected, with an average of 3,521.05 posts per organization. Among these posts, the 6,762 posts that mention "HIV/AIDS (艾滋/艾滋病 *aizi/aizibing*)" (10.11%) comprised our raw text corpus.

We performed word tokenization to extract meaningful words (i.e., nouns, verbs, and adjectives) from the raw corpus of website texts and Weibo posts. Before tokenization, we first scrubbed and filtered out irrelevant information such as user ID and textual "noise," such as punctuation, symbols, articles, and prepositions. We employed the THU Lexical Analyzer for Chinese (<http://thulac.thunlp.org/>) to perform automatic word tokenization (Sun, Chen, Zhang, Guo, & Liu, 2016), extracting each individual word with its grammatical category tagged.<sup>5</sup> The Hidden Markov Model provides the grammatical tagging for each token. Assuming  $y_l$  is the  $l$ -th token and  $x_l$  is its grammatical tag, the model can be formulated as

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<sup>2</sup> More information about these NGOs is available from the authors upon request.

<sup>3</sup> Seventeen of the 19 organizations that had a Weibo account also had a website.

<sup>4</sup> In this way, we are able to eliminate the 2,000-post download constraints that the Weibo API imposes. Coding is available at <https://jiaweisophiafu.com/resources/>.

<sup>5</sup> For the underlying assumptions and algorithms, see Li and Sun (2009). Coding for text tokenization, clustering, and filtering is available at <https://jiaweisophiafu.com/resources/>.

$$P(y_l) = \sum_{i=1}^l P_T(y_i|y_{i-1})$$

$$P(x_i|y_l) = \sum_{i=1}^l P_E(x_i|y_i),$$

where  $P_T$  is the transitional probability, and  $P_E$  is the emission probability. We performed the grammatical tagging at the sentence level to preserve semantic coherence. After the tagging, we kept only nouns, verbs, and adjectives for a clean corpus (Yuan et al., 2013).

We used MATLAB (<https://www.mathworks.com>) to identify the concepts that co-occurred with the word "HIV/AIDS" more than 10 times in the corpus. The co-occurrence matrix  $C(y_i, y_j)$  between tokens ( $y_i, y_j$ ) is determined as

$$C(y_i, y_j) = \sum_D \begin{cases} 1, & \text{if } \text{dist}(y_i, y_j) < \Omega \\ 0, & \text{otherwise} \end{cases},$$

where  $D$  is the cleaned corpus and  $\Omega$  is the window size. The co-occurrence of a word pair in this study is defined as two concepts or words appearing together within a four-token window. We generated a semantic network based on the frequencies of each word's co-occurrence with "HIV/AIDS" and their co-occurrences with each other. Altogether, 608 nodes comprise the Weibo co-occurrence network (forming a  $608 \times 608$  matrix); 693 nodes comprise the website co-occurrence network (forming a  $693 \times 693$  matrix).

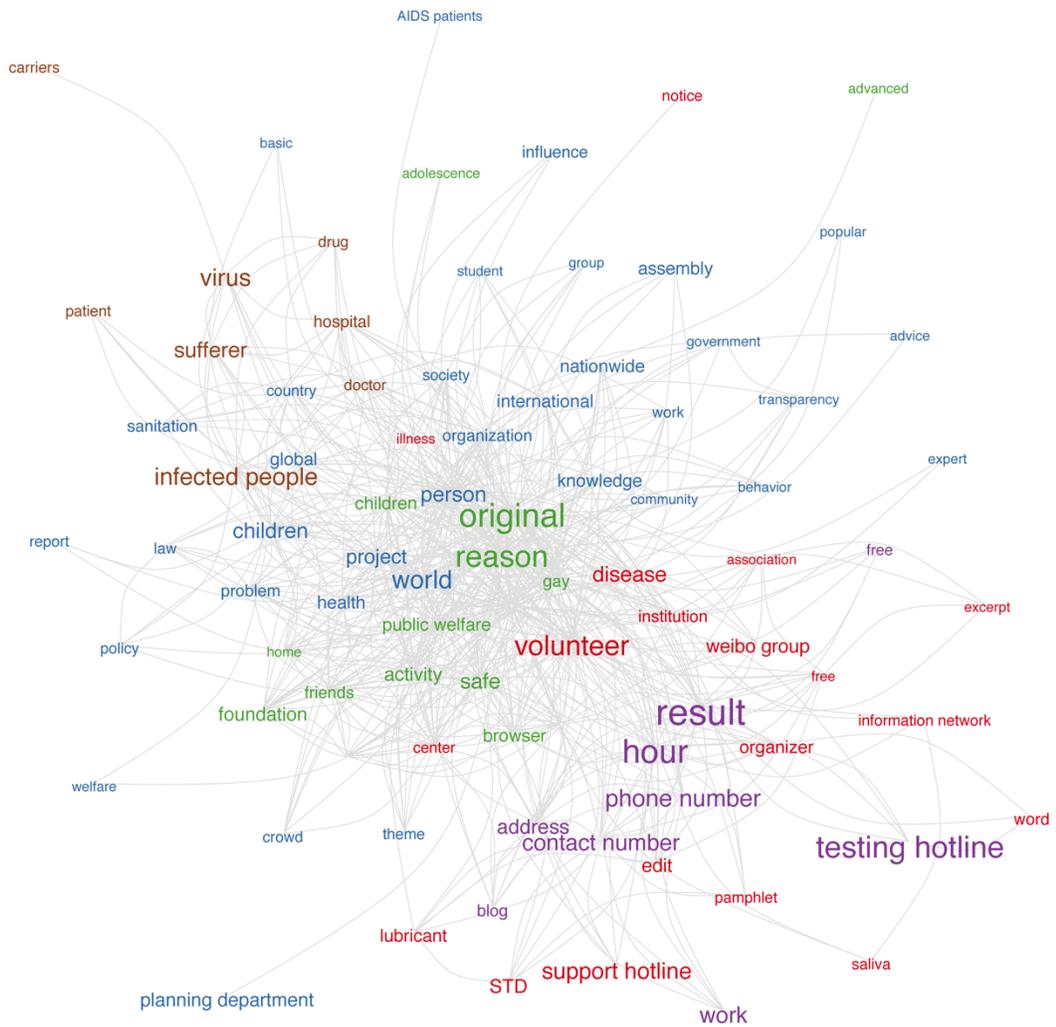
Based on the co-occurrence network matrix, we performed cluster analysis to identify the major themes that emerged from NGOs' discourse (Yuan et al., 2013) using the Walktrap clustering algorithm within the igraph package in R. Through a series of random walks over the network, the Walktrap clustering method generates a dissimilarity matrix based on the likelihood of reaching one node in a given random walk. It then generates an agglomerative hierarchical clustering by merging the pairs of words/terms or clusters that are most similar to one another using the Ward clustering method (see Pons & Latapy, 2006). Walktrap clustering is appropriate for this study because the edges are nondirected and weighted (i.e., frequency of co-occurrence) and the number of clusters is unknown. Finally, we used the igraph package (Csárdi & Nepusz, 2006) to visualize the semantic networks.<sup>6</sup>

## Results

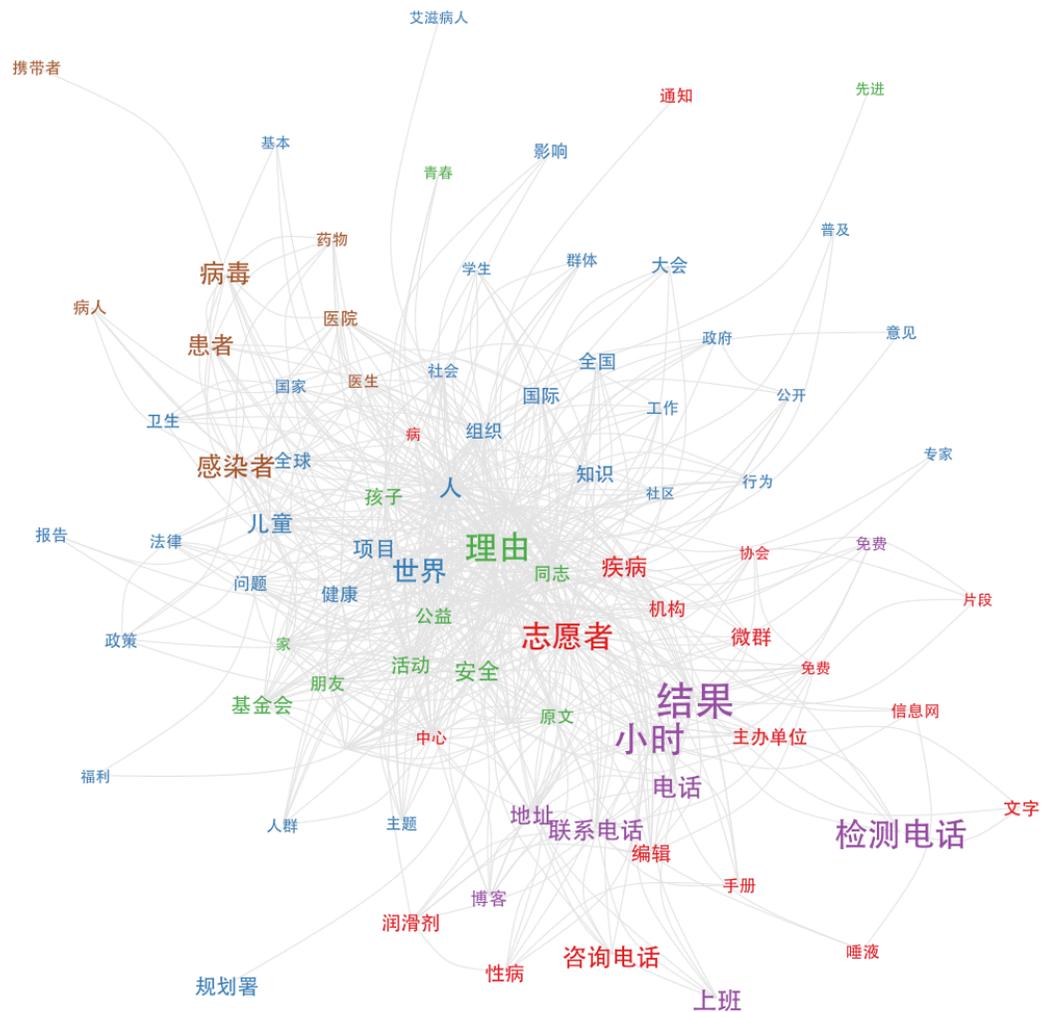
RQ1 and RQ2 ask about the general patterns of NGOs' HIV/AIDS discourse on Weibo and websites, respectively. Our results suggest 11 clusters for Weibo discourse and 17 clusters for website discourse. We dropped clusters that were too small (fewer than three words) and retained six major clusters for Weibo discourse (see Figure 1) and three clusters for website discourse (see Figure 2).

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<sup>6</sup> Coding for the cluster analysis and semantic network visualization is available at <https://jiaweisophiafu.com/resources/>.



**Figure 1. (A) Visualization of the Weibo semantic network in English.**



**Figure 1. (B) Visualization of the Weibo semantic network in Chinese. Different colors represent words in different clusters. The size of the word corresponds to the frequency of its co-occurrence with "HIV/AIDS." Only words with co-occurrence frequency higher than 160 ( $n = 99$ ) are shown in the visualization.<sup>7</sup>**

<sup>7</sup>In Chinese, some words translate to two English words; for example, "绝症" translates to "incurable disease," "人类" to "human being," and "公务员" to "civil servant." We translated some Chinese synonyms into different English words to distinguish them—for example, "同性恋者 / 同性恋" to "homosexuality/homosexual" and "成果/成就" to "achievement/accomplishment." This process created a better visualization. In rare cases, if we could not find two distinct English words for two concepts, we translated them into the same concept (e.g., "人群" and "群体" to "group" and "病人" and "患者" to "patient").





### RQ1: Weibo Semantic Network

The largest cluster, which we term *public policy and advocacy*, has 365 words. This cluster stresses patient-centered institutional engagement, such as public policy formation and human rights advocacy. The second largest cluster, labeled *social support*, has 106 words that focus on delivering informational, emotional, and tangible social support to PLWHA and high-risk groups. The third cluster, containing 72 words, speaks to *public education* and HIV/AIDS knowledge dissemination. The fourth cluster, *institutional resources*, consists of 50 words pertinent to the introduction of health services, interventions, and social support provided by various institutions. The fifth cluster, *community resources*, has 15 words. Cluster 5 is an extension of cluster 4 and has more temporal and spatial details about seeking help and health services from local institutions. The smallest cluster, *red tape*, highlights NGOs' engagement with the government authority and government officials. This cluster has only five words related to official awards, honors, and recognition. Table 1 presents the subthemes in each cluster and the word examples for each subtheme in descending order based on the frequency of their co-occurrence with "HIV/AIDS."

**Table 1. Exemplar Words From the Weibo Semantic Network.**

Cluster	Subthemes	Word examples
1. Public policy and advocacy	1.1. Geographic scope	world (世界), international (国际), nationwide (全国), global (全球)
	1.2. Institutions	planning department (规划署), knowledge (知识), assembly (大会), organization (组织), sanitation (卫生), policy (政策), report (报告), law (法律)
	1.3. Humanistic views	basic (基本), equality (平等), protect (保障), rights (权利), human rights (人权), discrimination-free (零歧视)
	1.4. Stakeholders	children (儿童), student (学生), expert (专家), AIDS patients (艾滋病病人), community (社区)
2. Social support	2.1. Activities	activity (活动), summer camp (夏令营), gala (晚会), photo (照片), story (故事), news (新闻)
	2.2. LGBT community	gay (同志), homosexuality (同性恋), homosexual (同性)
	2.3. Social support network	children (孩子), friends (朋友), youth (青年), teacher (老师), classmate (同学), home (家), university (大学), foundation (基金会)
	2.4. Normative view	safe (安全), public good (公益), philanthropy (慈善), love (爱心)
3. Public education	3.1. Technical terms about HIV/AIDS and related disease	virus (病毒), mother-to-child (母婴), blood (血液), infection prevalence (感染率), epidemic (传染病), transmission route (传播途径), tuberculosis (结核病)

	3.2. Health care services and medication	hospital (医院), drug (药物), doctor (医生), personnel (人员), health care (医疗), medication (药), vaccination (疫苗), designated organization (定点)
	3.3. People living with HIV/AIDS	infected people (感染者), sufferer (患者), patient (病人), carriers (携带者)
	3.4. Resulting social problems	orphan (孤儿), prison (监狱), living expenses (生活费)
4. Institutional resources	4.1. Institutions	organizer (主办单位), institution (机构), center (中心), association (协会), development center (发展中心), CDC (预防控制中心)
	4.2. Health services	hotline (咨询电话), pamphlet (手册), notice (通知)
	4.3. Technical terms	disease (疾病), sexually transmitted disease (STD, 性病), lubricant (润滑剂), saliva (唾液), illness (病), excerpt (片段), blood (血)
5. Community resources	Detailed instructions for health services	result (结果), hour (小时), testing hotline (检测电话), phone number (电话), work (上班), address (地址), time (时间), contact (联系人), stadium (体育场)
6. Red tape	Awards, honors, and recognition	honor (荣幸), committee (工作委), awards ceremony (表彰大会)

### **RQ2: Website Semantic Network**

The largest cluster, containing 295 words, pertains to *public policy and advocacy*. This cluster features HIV/AIDS-related knowledge and policy and the engagement of various institutions and stakeholders. The second cluster, *public education*, has 232 words. This cluster speaks to HIV/AIDS prevention and intervention efforts, with the engagement of a wide array of institutions and stakeholders. Finally, the third cluster, consisting of 143 words, is about *social support*, highlighting the various means and activities to engage PLWHA and high-risk populations (see Table 2).

**Table 2. Exemplar Words From the Website Semantic Network.**

Cluster	Subthemes	Word/term examples
1. Public policy and advocacy	1.1. Institutions	agency (机构), organization (组织), department (部门), government (政府), NGO (非政府组织), planning department (规划署), research institute (研究所)
	1.2. Policies and knowledge	virus (病毒), knowledge (知识), health care (医疗), policy (政策), law (法律), vaccine (疫苗), drugs (药物)
	1.3 Stakeholders	infected people (感染者), patient (病人), children (儿童), doctors (医生), teenagers (青少年), expert (专家), community (社区)

2. Public education	2.1. HIV/AIDS prevention and intervention efforts	training course (培训班), lecture (讲座), questionnaire (问卷), flyer (宣传单), brochure (宣传册), slogan (标语), red ribbon (红丝带)
	2.2. Institutions	association (协会), center (中心), foundation (基金会), school (学校)
	2.3. Stakeholders	prime minister (总理), director (主任), chairman (会长), professor (教授), citizen (市民), educator (教育员), youth (青年)
3. Social support	3.1. Activities	game (游戏), story (故事), program (节目), ceremony (仪式), summer camp (夏令营), gala (晚会), movie (电影)
	3.2. Social support network	volunteer (志愿者), children (孩子), college student (大学生), parents (父母), teacher (老师), friend (朋友), classmate (同学), AIDS orphans (艾滋孤儿)
	3.3. Positive emotions	love (爱心), enthusiastic (热情), warm (温暖), joy (快乐), pleasant (高兴)

In summary, the three largest clusters of NGOs' Weibo discourse overlap with the three major themes on websites (i.e., public policy and advocacy, public education, and social support). Additionally, NGOs' Weibo discourse has three unique clusters: institutional resources, community resources, and red tape.

### ***RQ3a: Convergence of NGOs' Discourse on Weibo and Websites***

To answer RQ3, we scrutinized and compared NGOs' Weibo and website semantic networks. We also went back to the original Weibo posts and website texts that contain certain keywords to contextualize the relevant cluster. Unsurprisingly, the largest cluster on both Weibo and websites features public policy and advocacy. NGOs act as strong advocates for well-being, social change, and normative values such as human rights and equality. They frequently mention human-centered public policy and regulations in combating discrimination and stigma. For instance, a Beijing-based NGO named Aizhixing advocates the human rights for PLWHA on its website:

AIDS patients in Henan province, many of whom were infected through tainted blood transfusions, protested against a lack of affordable medication . . . outside a local government building. . . . Some of the protestors were hurt and arrested. We urge the local government to immediately release them and provide them with compensation and health care payouts.

NGOs also shoulder the responsibility of protecting the rights of PLWHA and encouraging the universal discourse of equality, corresponding to the "human rights frame" that Yang and Taylor (2014) identify. Thus, NGOs play an active role in combating stigma, a major barrier to effective HIV prevention

and control in China (Gu & Renwick, 2008; Ren & Simpson, 2017). The following Weibo post by the NGO Doctors Without Borders exemplifies this:

We should make "No new infections, no stigma, and no deaths" not only a slogan, but an achievable goal. Tomorrow is the World AIDS Day, join us to disseminate this message and make a concerted effort to achieve this goal!

In addition to conveying humanistic and normative values, NGOs empower PLWHA by bringing their voices to a large audience on Weibo. As evident in the social support cluster, NGOs encourage the marginalized communities to share their stories and express their feelings. For example, Chengdu Tongle Health Counseling and Service Center posted:

On Night Talks, Ken shared his story of wrestling with HIV. He said, "HIV motivated me to live with a healthy lifestyle. I used to live an unhealthy life—smoking, drinking, having drugs. These things are more fatal than HIV. But I got rid of those bad habits and now actively fight against HIV."

Such personal stories of success, faith, and hope portray PLWHA as having determination and strong will. These stories might contribute to public understanding of the stigmatized group, because personal stories can help narrators gain empathy and social support (Gergen, 2005; R. Zhang, Eschler, & Reddy, 2018). Further, NGOs could mobilize collective action and organize a wide range of participatory activities across diverse groups and geographic spaces. Another Chengdu Tongle post stated:

The leading actor in the documentary Rainbow will join our group on September 22, telling his story of having an LGBT child. You are invited to come and join us, sharing your stories with other parents of LGBT children across the country. Registration number: 028-86627577.

The third theme, public education, highlights NGOs' efforts to disseminate knowledge and information about HIV/AIDS, thus indirectly contributing to the anti-stigma movement. These educational posts could help PLWHA, high-risk groups, and the public acquire relevant knowledge. For instance, the Chinese website of the Bill & Melinda Gates Foundation stated:

Studies suggest that HIV testing plays a pivotal role in preventing the spread of disease among HIV-positive people. If people are aware of their conditions, their high-risk sexual behaviors will be reduced by over 60%. Early treatment will also significantly reduce the rate of HIV transmission via sex by 96% and prolong patient life.

### ***RQ3b: Unique HIV/AIDS Discourse on Weibo***

Our findings also suggest some unique HIV/AIDS discourse on Weibo. Most notably, our results reveal that NGOs constantly compliment the Chinese government and praise government officials on Weibo. Indeed, the values that NGOs advocate, such as human rights and freedom of expression, contradict the

political practices in China (Witteborn, 2010). Yet NGOs use the red tape cluster to counteract the potential political risks by acknowledging the commitment of the government and political leaders, as illustrated by the following posts from Beijing-based Aizhixing and Danlan:

We warmly welcome Chinese vice president Li, who cares about the rights of people infected with HIV and the safety of health care workers.

On December 1, 2012, Beijing Changping CDC gave awards for advanced collectives and advanced individuals in fighting against HIV/AIDS. Danlan is the only NGO in Changping district that received this award. Our director Geng Le was awarded the outstanding leader fighting against HIV/AIDS.

Other NGOs seek institutional legitimacy and extensive stakeholder support, particularly from the government. The following post by Jingjing Center provides an example of how the organization seeks to enhance political legitimacy by complimenting political leaders:

President Xi made remarks on the country's anti-HIV/AIDS work ahead of the World AIDS Day on December 1. According to Xi, the prevention and control of HIV/AIDS concern people's life and health, as well as social harmony and stability. As such, it is the obligatory responsibility of the Community Party and the central government.

NGOs also exclusively use Weibo to disseminate information about institutional and community health services and interventions, as shown in the following posts by Chengdu Tongle and Danlan:

How should you understand the results of HIV testing? How often should you take an HIV testing? What should you do after testing positive for HIV? Tongle provides you with professional and free HIV testing from 1pm to 7pm every day. Address: 23-2, Jinhai International Garden B, Tianxianqiao North Road.

Early testing leads to early detection and timely treatment. Dial this number for free HIV testing: 024-31321069.

### **Discussion**

This study examines the HIV/AIDS discourse on NGOs' social media and websites in China, highlighting the pivotal role of NGOs in combating HIV/AIDS. Semantic network analysis reveals that NGOs employ both Weibo and websites to influence public policy, promote public education, and provide social support. However, NGOs' Weibo discourse contains additional details about institutional and community health care resources and reflects NGOs' engagement with the government (i.e., red tape). Our findings thus suggest the convergent yet distinct affordances of websites and social media for health communication and the constraints of the sociopolitical context on organizations' communicative practices.

The differences in NGOs' HIV/AIDS discourse on Weibo and websites reflect the different affordances of social media and organizational websites. For example, the interactive features of Weibo (e.g., mentions, reposts) might enable NGOs to expand the reach of their information and services and amplify their social impact (R. Chen & Fu, 2016). A message can go viral on Weibo if influential users repost it, making it easier to engage different stakeholders (Young et al., 2018; Zheng & Yu, 2016). Health care providers may utilize the material and functional features of social media, such as anonymity, to connect with PLWHA and engage in one-to-one communication (Ems & Gonzalez, 2016). In this study, NGOs used Weibo to launch a wide variety of online and off-line activities to raise public awareness. By engaging marginalized communities, NGOs can mobilize collective action, which can profoundly "transcend ideological frames that constrain sociopolitical participation" (Witteborn, 2010, p. 369) and lead to the engagement of a wide range of traditionally disconnected stakeholder groups, such as PLWHA, families, volunteers, and the general public. In this way, NGOs can reach their target audience, disseminate information, and share relevant resources in a timely manner. With the help of digital media, NGOs are empowered to act as institutional entrepreneurs, public educators, and civil society supporters in the HIV/AIDS issue space.

Our study also suggests that NGOs in China must cater to the interests of various stakeholders—in particular, the government authority. As illustrated by the red tape theme, NGOs have to openly applaud the government to mitigate political risks and build institutional legitimacy. This is particularly important given that HIV/AIDS remains a sensitive topic in China (Spires, 2011) and the Chinese government imposes formidable constraints on NGOs' actions (Fu & Shumate, 2016; Schwartz, 2004). For example, the government has stringent regulations that limit the scope of NGOs' work to depoliticized and soft aspects (Schwartz, 2004; Spires, 2011). According to Spires (2011), the state logic of social stability and public security represses civil organizing and association that calls for democratic reforms or social change. Violating state regulations imposes formidable political risks on NGOs, such as being shut down, silenced, or disciplined by state departments. As a result, NGOs have to collaborate with the government to deliver HIV-related health services and influence public policy (Kaufman, 2012). To survive in China, NGOs, in addition to refraining from making politicized and democratic claims, must ensure that state agents can claim credit for their good works while avoiding blame for any problems the NGOs might identify (Spires, 2011). This might explain why NGOs have to acknowledge the work of the government and the commitment of political leaders on social media in the presence of fuzzy and shifting political lines.

Despite the political constraints in China, our study suggests that NGOs are not completely voiceless. Some NGOs use social media to bypass state censorship and initiate public discussions on other sensitive topics, such as LGBTQ and human rights, that were otherwise not able to be discussed in traditional media. We find that NGOs' HIV/AIDS discourse is distinct from that of Chinese mainstream media, which tends to stigmatize PLWHA (Ren et al., 2014; Ren & Simpson, 2017) and cover up the issue because it might pose threats to "social harmony" (Dong et al., 2008; Wu, 2006). Whereas mainstream discourse often associates PLWHA with sexual promiscuity, NGOs' HIV/AIDS discourse seeks to convey well-being and equality. This corroborates Xu and colleagues' (2005) observation that Chinese HIV/AIDS NGOs have engaged in many sensitive issues that the government has been reluctant to handle. The open discussion of HIV may challenge existing ideologies and shift understandings of PLWHA (Clair, Daniel, & Lamont, 2016). The stories and voices of marginalized populations can reconstruct the image of the stigmatized group, help reduce stigma, and promote public understanding of the disease (Ren & Simpson, 2017; R. Zhang et al.,

2018). In sum, although NGOs' voices in the HIV/AIDS issue space are often marginalized in the mainstream media in China (Dong et al., 2008; Ren et al., 2014), NGOs' online discourse, particularly social media discourse, has the potential to demystify HIV and inform and educate the public, thereby reducing the stigma associated with HIV.

### ***Theoretical Contributions***

This study makes three theoretical contributions. First, by examining the HIV/AIDS discourse of NGOs, this study complements existing literature that focuses on either mainstream media discourse (e.g., Dong et al., 2008; Ren et al., 2014) or public discourse (e.g., Mo & Coulson, 2008; J. Zhang & Ding, 2014) about HIV/AIDS. Compared with the mainstream discourse that often stigmatizes PLWHA (e.g., Dong et al., 2008; Ren & Simpson, 2017; Wu, 2006), NGOs' discourse focuses more on educating the general public and empowering high-risk groups and PLWHA. Additionally, whereas the HIV/AIDS discourse among the general public and PLWHA foregrounds social support (e.g., Guo & Goh, 2014; Shi & Chen, 2014), NGOs' HIV/AIDS discourse demonstrates efforts to satisfy the interests of both the marginalized groups and the government to maintain institutional legitimacy. Therefore, this study provides a fuller picture of how various social actors frame and communicate a sensitive health issue, highlighting the pivotal role of NGOs in destigmatization and public education in restrictive political contexts.

Second, some convergence of NGOs' discourse on social media and websites reflects the affordances of digital media that enable organizations to fulfill their educational and humanitarian mandates. In line with prior research, NGOs rely on digital media to strategically disseminate health messages that shape their stakeholders' understanding of HIV/AIDS and mobilize resources and collective action (Ems & Gonzalez, 2016; Loudon, 2010; Young et al., 2018). Hence, this research suggests that organizations may use different ICTs that provide related affordances (Rice et al., 2017). However, we also uncover the differential discourse on Weibo and organizational websites, highlighting the distinct affordances of these two platforms. Given its unique technical features, social media opens up new opportunities for NGOs to amplify the voices of marginalized groups and initiate discussions on social issues that are important for societal development yet are overlooked by the government. Similarly, previous research suggests that NGOs use social media for community building and collective action—activities that are limited on websites (D. Kim et al., 2014; Lovejoy & Saxton, 2012). Thus, this study indicates that organizations use different ICTs for distinct purposes. In sum, by directly comparing organizations' communicative practices on social media and websites, this research advances technology affordance scholarship by highlighting the convergent yet distinct affordances of different digital media.

Last but not least, this study contributes to a context-rich understanding of the affordances and implications of ICTs in China. Although Weibo enables NGOs to engage PLWHA and high-risk groups and bypass state censorship, this study highlights the necessity for NGOs to engage with the government on Weibo (Zhou & Pan, 2016). Chinese NGOs can survive in an authoritarian regime only if they refrain from blaming the government and giving credit to the state for social progress (Spires, 2011). Indeed, the extent to which technologies live up to their potential is contingent on the institutional contexts as well as how people use them and what they use them for (W. Chen, 2014). Thus, this study underscores the inherent tension between ICTs and an authoritarian regime. It extends the technology affordance scholarship by

suggesting that organizations' use of ICTs is shaped by not only the interpersonal, group, and organizational contexts (Rice et al., 2017) but also by the wider institutional context.

### ***Limitations and Future Research***

This study has several limitations that provide opportunities for future research. First, this study only examines the NGOs included in the Beijing Civil Society Development Research Center and the China HIV/AIDS Information Network, which were more likely than smaller organizations to use social media and websites. As such, the generalizability of this study is limited to larger, more influential NGOs working on HIV/AIDS. Second, this study examines the HIV/AIDS discourse of NGOs only in China. As some scholars have pointed out (e.g., J. Zhang & Ding, 2014), discourse varies substantially across institutional contexts. Thus, a promising area of future research is to investigate NGOs' HIV/AIDS discourse in other contexts through a comparative lens. Third, given the descriptive nature of semantic network analysis, this study provides only a preliminary step to understanding the affordances of varied ICTs. Future research could specify the specific affordances of social media and websites and employ quantitative models to interrogate the relationship between the materiality of ICTs and discourse.

Based on the findings of this study, future research might investigate the relationship between different themes and the public's reactions, such as the number of shares, comments, and their sentiment, to better understand how the public engages with NGOs online. It would also be helpful to examine how organizations respond to public comments (see, e.g., Young et al., 2018) from the perspective of audiences and organizations. Moreover, future studies might consider directly comparing the discourse of different social groups and types of organizations (e.g., NGOs, research institutes, and government agencies) to better understand how institutional contexts shape social actors' communicative practices.

### **Conclusion**

This study highlights the pivotal role of NGOs in HIV/AIDS prevention, treatment, and destigmatization. Employing semantic network analysis, this study demonstrates that NGOs' HIV/AIDS discourse is more diverse on social media than on their websites. Notably, NGOs often praise the government on social media to minimize political risks and gain institutional legitimacy. This study advances the technology affordance literature by shedding light on the convergent yet distinct affordances of different digital media for strategic health communication and the constraints of the sociopolitical context on organizations' communicative practices. However, questions remain about the dynamic, complex interplay between organizations, digital media, and institutional contexts.

### **References**

- Chen, R. Y., & Fu, J. S. (2016). How to be heard on microblogs? Nonprofit organizations' follower networks and post features for information diffusion in China. *Information, Communication & Society*, 19(7), 978–993. doi:10.1080/1369118X.2015.1086013

- Chen, W. (2014). Taking stock, moving forward: The Internet, social networks, and civic engagement in Chinese societies. *Information, Communication & Society*, 17(1), 1–6.  
doi:10.1080/1369118X.2013.857425
- Chinese Center for Disease Control and Prevention. (2018). *Update on the AIDS/STD epidemic in China and main response in control and prevention*. Retrieved from  
[http://ncaids.chinacdc.cn/zxzx/zxzx/201810/t20181012\\_194744.htm](http://ncaids.chinacdc.cn/zxzx/zxzx/201810/t20181012_194744.htm)
- Clair, M., Daniel, C., & Lamont, M. (2016). Destigmatization and health: Cultural constructions and the long-term reduction of stigma. *Social Science and Medicine*, 165, 223–232.  
doi:10.1016/j.socscimed.2016.03.021
- Csárdi, G., & Nepusz, T. (2006). The igraph software package for complex network research. *InterJournal Complex Systems*, 1695(5), 1–9.
- de Souza, R. (2007). The construction of HIV/AIDS in Indian newspapers: A frame analysis. *Health Communication*, 21(3), 257–266. doi:10.1080/10410230701307733
- de Souza, R. (2009). Creating “communicative spaces”: A case of NGO community organizing for HIV/AIDS prevention. *Health Communication*, 24(8), 692–702.  
doi:10.1080/10410230903264006
- Dong, D., Chang, T-K., & Chen, D. (2008). Reporting AIDS and the invisible victims in China: Official knowledge as news in the *People’s Daily*, 1986–2002. *Journal of Health Communication*, 13(4), 357–374. doi:10.1080/10810730802063793
- Doyle, C., & Patel, P. (2008). Civil society organisations and global health initiatives: Problems of legitimacy. *Social Science and Medicine*, 66(9), 1928–1938.  
doi:10.1016/j.socscimed.2007.12.029
- Ems, L., & Gonzales, A. L. (2016). Subculture-centered public health communication: A social media strategy. *New Media & Society*, 18(8), 1750–1767. doi:10.1177/1461444815570294
- Fairhurst, G. T., & Grant, D. (2010). The social construction of leadership: A sailing guide. *Management Communication Quarterly*, 24(2), 171–210. doi:10.1177/0893318909359697
- Faraj, S., & Azad, B. (2012). The materiality of technology: An affordance perspective. In P. M. Leonardi, B. Narid, & J. Kallinikos (Eds.), *Materiality and organizing: Social interaction in a technological world* (pp. 237–258). New York, NY: Oxford University Press.
- Fu, J. S., & Shumate, M. (2016). Hyperlinks as institutionalized connective public goods for collective action online. *Journal of Computer-Mediated Communication*, 21(4), 298–311.  
doi:10.1111/jcc4.12161

- Gergen, K. J. (2005). Narrative, moral identity, and historical consciousness. In J. Straub (Ed.), *Narration, identity, and historical consciousness* (pp. 99–119). New York, NY: Berghahn Books.
- Gu, J., & Renwick, N. (2008). China's fight against HIV/AIDS. *Journal of Contemporary China, 17*(54), 85–106. doi:10.1080/10670560701693096
- Guo, Y., & Goh, D. H. L. (2014). "I have AIDS": Content analysis of postings in HIV/AIDS support group on a Chinese microblog. *Computers in Human Behavior, 34*, 219–226. doi:10.1016/j.chb.2014.02.003
- Herek, G. M., Capitano, J. P., & Widaman, K. F. (2003). Stigma, social risk, and health policy: Public attitudes toward HIV surveillance policies and the social construction of illness. *Health Psychology, 22*(5), 533–540. doi:10.1037/0278-6133.22.5.533
- Huang, Y. (2006). The politics of HIV/AIDS in China. *Asian Perspective, 30*(1), 95–125.
- Jiang, K., Barnett, G. A., & Taylor, L. D. (2016). Dynamics of culture frames in international news coverage: A semantic network analysis. *International Journal of Communication, 10*, 3710–3736.
- Kaufman, J. (2012). China's evolving AIDS policy: The influence of global norms and transnational non-governmental organizations. *Contemporary Politics, 18*(2), 225–238. doi:10.1080/13569775.2012.674343
- Kim, D., Chun, H., Kwak, Y., & Nam, Y. (2014). The employment of dialogic principles in website, Facebook, and Twitter platforms of environmental nonprofit organizations. *Social Science Computer Review, 32*(5), 590–605. doi:10.1177/0894439314525752
- Kim, J. H. (2012). A hyperlink and semantic network analysis of the triple helix (university-government-industry): The interorganizational communication structure of nanotechnology. *Journal of Computer-Mediated Communication, 17*(2), 152–170. doi:10.1111/j.1083-6101.2011.01564.x
- Leonardi, P. M. (2011). When flexible routines meet flexible technologies: Affordances, constraints, and the imbrication of human and material agencies. *MIS Quarterly, 35*, 147–167. doi:10.2307/23043493
- Li, Z., & Sun, M. (2009). Punctuation as implicit annotations for Chinese word segmentation. *Computational Linguistics, 35*(4), 505–512. doi:10.1162/coli.2009.35.4.35403
- Loudon, M. (2010). ICTs as an opportunity structure in Southern social movements: A case study of the Treatment Action Campaign in South Africa. *Information, Communication & Society, 13*(8), 1069–1098. doi:10.1080/13691180903468947

- Lovejoy, K., & Saxton, G. D. (2012). Information, community, and action: How nonprofit organizations use social media. *Journal of Computer-Mediated Communication, 17*(3), 337–353. doi:10.1111/j.1083-6101.2012.01576.x
- Lupton, D. (1992). Discourse analysis: A new methodology for understanding the ideologies of health and illness. *Australian Journal of Public Health, 16*(2), 145–150.
- Mo, P. K. H., & Coulson, N. S. (2008). Exploring the communication of social support within virtual communities: A content analysis of messages posted to an online HIV/AIDS support group. *CyberPsychology and Behavior, 11*(3), 371–374. doi:10.1089/cpb.2007.0118
- Nagy, P., & Neff, G. (2015). Imagined affordance: Reconstructing a keyword for communication theory. *Social Media + Society, 1*(2). doi:10.1177/2056305115603385
- National Health Commission of China. (2018). *Overview of infectious disease in China*. Retrieved from <http://www.nhfpc.gov.cn/jki/s3578/201802/de926bdb046749abb7b0a8e23d929104.shtml>
- Pons, P., & Latapy, M. (2006). Computing communities in large networks using random walks. *Journal of Graph Algorithms and Applications, 10*(2), 191–218. doi:10.1007/11569596\_31
- Qin, J. (2015). Hero on Twitter, traitor on news: How social media and legacy news frame Snowden. *International Journal of Press/Politics, 20*(2), 166–184. doi:10.1177/1940161214566709
- Rauchfleisch, A., & Schäfer, M. S. (2015). Multiple public spheres of Weibo: A typology of forms and potentials of online public spheres in China. *Information, Communication & Society, 18*(2), 139–155. doi:10.1080/1369118X.2014.940364
- Ren, C., Hust, S. J., & Zhang, P. (2014). Chinese newspapers' coverage of HIV transmission over a decade (2000–2010): Where HIV stigma arises. *Chinese Journal of Communication, 7*(3), 267–284. doi:10.1080/17544750.2014.926953
- Ren, C., & Simpson, E. (2017). Media hurts: Perspectives of people living with HIV on HIV stigmatization in Chinese media discourse. *China Media Research, 13*(2), 86–98.
- Rice, R. E., Evans, S. K., Pearce, K. E., Sivunen, A., Vitak, J., & Treem, J. W. (2017). Organizational media affordances: Operationalization and associations with media use. *Journal of Communication, 67*(1), 106–130. doi:10.1111/jcom.12273
- Rosenberg, C. E. (2009). *The cholera years: The United States in 1832, 1849, and 1866*. Chicago, IL: University of Chicago Press.

- Ruelle, O., & Peverelli, P. (2017). The discursive construction of identity through interaction on social media in a Chinese NGO. *Chinese Journal of Communication*, 10(1), 12–37. doi:10.1080/17544750.2016.1217899
- Schultz, F., Kleinnijenhuis, J., Oegema, D., Utz, S., & van Atteveldt, W. (2012). Strategic framing in the BP crisis: A semantic network analysis of associative frames. *Public Relations Review*, 38(1), 97–107. doi:10.1016/j.pubrev.2011.08.003
- Schwartz, J. (2004). Environmental NGOs in China: Roles and limits. *Pacific Affairs*, 77(1), 28–49. doi:10.2307/40022273
- Shi, J., & Chen, L. (2014). Social support on Weibo for people living with HIV/AIDS in China: A quantitative content analysis. *Chinese Journal of Communication*, 7(3), 285–298. doi:10.1080/17544750.2014.926954
- Shumate, M., & Contractor, N. (2013). The emergence of multidimensional social networks. In L. L. Putnam & D. K. Mumby (Eds.), *The SAGE handbook of organizational communication* (3rd ed., pp. 449–474). Thousand Oaks, CA: SAGE Publications.
- Spires, A. J. (2011). Contingent symbiosis and civil society in an authoritarian state: Understanding the survival of China's grassroots NGOs. *American Journal of Sociology*, 117(1), 1–45. doi:10.1086/660741
- Sun, M., Chen, X., Zhang, K., Guo, Z., & Liu, Z. (2016). *THULAC: An efficient lexical analyzer for Chinese*. Retrieved from <http://thulac.thunlp.org>
- Tidwell, L. C., & Walther, J. B. (2002). Computer-mediated communication effects on disclosure, impressions, and interpersonal evaluations: Getting to know one another a bit at a time. *Human Communication Research*, 28(3), 317–348. doi:10.1111/j.1468-2958.2002.tb00811.x
- Treem, J., & Leonardi, P. M. (2013). Social media use in organizations: Exploring the affordances of visibility, editability, persistence, and association. *Annals of the International Communication Association*, 36(1), 143–189. doi:10.1080/23808985.2013.11679130
- Wang, F. (2016, September 27). China grapples with HIV cases among gay men, but stigma runs deep. *The Wall Street Journal*. Retrieved from <http://www.wsj.com/articles/china-grapples-with-hiv-cases-among-gay-men-but-stigma-runs-deep-1474988827>
- Witteborn, S. (2010). The role of transnational NGOs in promoting global citizenship and globalizing communication practices. *Language and Intercultural Communication*, 10(4), 358–372. doi:10.1080/14708477.2010.497556

- Wong, F. Y., Huang, Z. J., Wang, W., He, N., Marzzurco, J., Frangos, S., . . . Smith, B. D. (2009). STIs and HIV among men having sex with men in China: A ticking time bomb? *AIDS Education and Prevention, 21*(5), 430–446. doi:10.1521/aeap.2009.21.5.430
- World Health Organization. (2018, July 19). *HIV/AIDS: Key facts*. Retrieved from <http://www.who.int/mediacentre/factsheets/fs360/en/>
- Wu, M. (2006). Framing AIDS in China: A comparative analysis of US and Chinese wire news coverage of HIV/AIDS in China. *Asian Journal of Communication, 16*(3), 251–272. doi:10.1080/01292980600857781
- Wu, Z., Liu, Z., & Detels, R. (1995). HIV-1 infection in commercial plasma donors in China. *The Lancet, 346*(8966), 61–62. doi:10.1016/S0140-6736(95)92698-4
- Xu, H., Zeng, Y., & Anderson, A. F. (2005). Chinese NGOs in action against HIV/AIDS. *Cell Research, 15*(11–12), 914–918. doi:10.1038/sj.cr.7290368
- Yang, A., & Taylor, M. (2010). Relationship-building by Chinese ENGOs' websites: Education, not activation. *Public Relations Review, 36*(4), 342–351. doi:10.1016/j.pubrev.2010.07.001
- Yang, A., & Taylor, M. (2014). Public diplomacy in a networked society: The Chinese government-NGO coalition network on acquired immune deficiency syndrome prevention. *International Communication Gazette, 76*(7), 575–593. doi:10.1177/1748048514538929
- Young, R., Tully, M., & Dalrymple, K. E. (2018). #Engagement: Use of Twitter chats to construct nominal participatory spaces during health crises. *Information, Communication & Society, 21*(4), 499–515. doi:10.1080/1369118X.2017.1301518
- Yu, H. (2012). Governing and representing HIV/AIDS in China: A review and an introduction. *International Journal of Asia-Pacific Studies, 8*(1), 1–33.
- Yuan, E. J., Feng, M., & Danowski, J. A. (2013). "Privacy" in semantic networks on Chinese social media: The case of Sina Weibo. *Journal of Communication, 63*(6), 1011–1031. doi:10.1111/jcom.12058
- Zhang, J., & Ding, H. (2014). Constructing HIV/AIDS on the Internet: A comparative rhetorical analysis of online narratives in the United States and in China. *International Journal of Communication, 8*, 1415–1436.
- Zhang, R., Eschler, J., & Reddy, M. (2018). Online support groups for depression in China: Culturally shaped interactions and motivations. *Computer Supported Cooperative Work, 27*, 327–354. doi:10.1007/s10606-018-9322-4

Zheng, Y., & Yu, A. (2016). Affordances of social media in collective action: The case of free lunch for children in China. *Information Systems Journal*, 26(3), 289–313. doi:10.1111/isj.12096

Zhou, H., & Pan, Q. (2016). Information, community, and action on Sina-Weibo: How Chinese philanthropic NGOs use social media. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 27(5), 2433–2457. doi:10.1007/s11266-016-9685-4