"Learning for the Rise of China": Exploring Uses and Gratifications of State-Owned Online Platform

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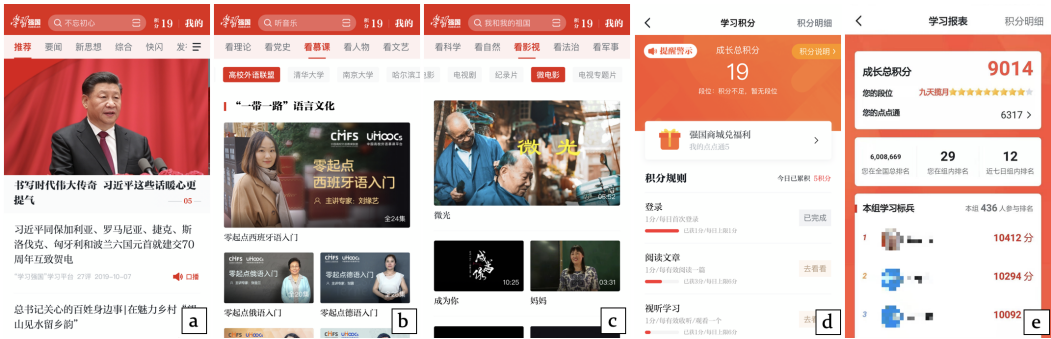XUECONG XU, Human-Centered Design and Engineering, University of Washington, USA

Fig. 1. Screenshots of XueXi. XueXi is a state-owned online platform that aggregates a wide range of services and functions, including a) official news feed of political content b) massive open online courses, c) video streams of television programs and video clips, d) gamified points system and daily progress report, and e) group leaderboard.

In January 2019, the Chinese Communist Party launched the online platform *XueXi QiangGuo*, which translates into "*Learning for the Rise of China.*" Within two months, XueXi became the top-downloaded item of the month on Apple's App Store in China. In response, we conducted an interview study with 28 active XueXi users to investigate their uses and gratifications of this state-owned online platform. Our results reveal seven key motivations: compliance, self-status seeking, general information seeking, job support, entertainment, patriotism, and learning. This state-owned platform introduced a new model for official information dissemination and political communication through direct surveillance and monitoring, leveraging and fostering emotional attachment, and offering heterogeneous apolitical content. We discuss the intended and unintended ramifications of these components, highlighting the importance of future CSCW research to critically engage with pluralist political narratives situated in varied societies, especially non-Western democracies.

CCS Concepts: • **Human-centered computing** → **Empirical studies in HCI**; **User studies**.

Additional Key Words and Phrases: XueXi QiangGuo; China; politics; political communication; surveillance; patriotism; non-Western; official media

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1 INTRODUCTION

In March 2019, the most downloaded application of the month on Apple's App Store in China was *XueXi QiangGuo* (学习强国; hereinafter, *XueXi*), surpassing all popular social media applications like WeChat[1] and TikTok[2]. The app's name can literally translate to "*Learning for the Rise of China.*" The first half of its name—XueXi—means "*Learning*" but can also mean "*Learning from Xi,*" in reference to the current Chinese President's ideological additions to the Chinese Communist Party (CCP)'s constitution in 2017, entitled Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era [92]. XueXi was launched after a CCP campaign that called on its citizens to "immerse themselves in political doctrine every day" [32]. Since XueXi's implementation, governmental organizations, state-owned enterprises, educational institutions, and party units in the private sector require civil servants and individuals in ccp networks to actively engage with the platform [45] as part of the workplace or party group. When XueXi was launched, it had adopted a gamified point and ranking system. As such, in order to get "study points" and claim a high position on the leaderboard, users needed to complete a series of activities on XueXi each day. These activities included reading official news articles, watching official news and other mainstream video clips, and answering trivia questions across a wide range of topics.

The nature of this state-owned platform has made it distinct from existing social media and digital platform's role in political communication [28, 50, 63, 66]. Given its rapid growth and political nature, it is unsurprising that XueXi's appearance has garnered some international media attention. For example, XueXi has been criticized by some Western media as "a propaganda tool teaching Xi Jinping Thought" [32] or "modern Chairman Mao's little red book" [49]. However, to the best of our knowledge, there has been limited media and, thus far, no academic research investigating the fundamental motivations driving people's use of this state-owned online platform:

- **RQ1:** What motivates people to engage with XueXi?
- **RQ2:** What impacts people's use and adoption of XueXi?

To answer these questions, we leverage the Uses and Gratifications (U&G) theory [69], which has been adopted in past computer-supported cooperative work (CSCW) research to investigate the "*why*" and "*how*" of media use [36]. We conducted in-depth semi-structured interviews with 28 active users of XueXi in China and identified seven major motivations: (1) compliance, (2) self-status seeking, (3) general information seeking, (4) job support, (5) entertainment, (6) patriotism, and (7) learning. Our results also revealed the key factors that influence the uses and gratifications of XueXi, including people's perceived surveillance from the platform, their colleagues and their organizations; user's professional identity; and the sociopolitical context of their organization.

This paper contributes to prior work on political communication, digital official media use, and China studies in CSCW and adjacent fields in three specific ways. First, our findings document the implementation of XueXi, the first state-owned online platform that serves as an official media outlet in an non-Western democracy. We unpack and make sense of the positioning and potential intention of XueXi in China's current political landscape. Second, we unpack how this modern digital official media outlet is used by the state to effectively disseminate the political agenda and values, which extends past CSCW and human-computer interaction (HCI) research on political communications on third-party digital platforms [28, 50, 66]. In particular, we highlight the key role of employing surveillance, fostering emotional attachment, and offering a variety of apolitical content in this process. Lastly, by discussing the potential impact of the XueXi model in China and other societies, we argue that CSCW researchers and practitioners must critically engage with

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[1]WeChat is a Chinese multi-purpose platform that integrates messaging, social media, and mobile payment. As of 2019, WeChat has over 1.15 billion actively users worldwide [72].

[2]TikTok is a Chinese video-sharing social media platform with over 400 million active users as of January 2020 [74].

and demand a plurality of political communication and participation based on the sociopolitical, historical, and cultural context of varied societies, especially those outside the reach of Western democracy.

2 RELATED WORK

We begin our related work with an overview of the U&G theoretical framework and its application in past research regarding motivations for digital platform and social media use. Thereafter, we discuss prior literature related to the sociopolitical environments of China and past work in CSCW and HCI around politics and online political discussion.

2.1 Uses and Gratifications

The U&G theoretical framework has been widely employed in past media and HCI research to frame and conceptualize the selection of media and digital platforms. U&G suggests that one's selection and consumption of media is "largely goal-directed and purposive" [61, p.167], which is rooted in social-psychological dispositions and individual differences among people [62]. Overall, the U&G perspective provides a theoretical foundation to explain users' own needs (*i.e.*, anticipation of what they can get out of specific media) and determines their media choice and consumption (*i.e.*, how they are motivated to consume media) [69].

Early communication research examined the gratifications of watching television news through the U&G perspective [56]. This research identified five motivations for news consumption, including general information seeking, decisional utility, entertainment, interpersonal utility, and parasocial interaction. More recently, CSCW and HCI work has applied U&G to understand users' motivations for using social networking platforms [35, 36, 41, 57, 68, 75]. For example, researchers have used U&G to explain users' various motivation for using Facebook. Joinson identified seven fundamental uses and gratifications for that particular site [35]; Park et al. focused on Facebook Groups and categorized four motivations unique to this feature, including socializing, entertainment, self-status seeking, and information seeking [57]. Similarly, Lampe et al. applied the U&G perspective to explain users' motivations for contributing to online content generation communities. These researchers found that users' specific motivations determine the pattern of their contribution [41]. Another line of HCI research has employed U&G in exploring the motivations for using gamified platforms. For example, van Roy et al. conducted a qualitative study identified five primary needs for participating in gamified learning platforms: learning, curiosity, fun, need for closure, and competence [76]. Their findings also suggest that gamification elements are not the initial reasons for using the tool, but can motivate users to remain on the platform.

Our research builds upon this prior literature with an empirical examination of the uses and gratifications of a state-owned online platform that integrates official news dissemination, social networking, online learning, and gamification elements. However, to uncover the specific motivations and influencing factors of XueXi requires a deeper understanding of (1) the sociopolitical background of China and (2) how collaborative systems support governments and engage the public in political discussion and activities, to which we briefly discuss below.

2.2 Sociopolitical Background and Official Media in China

2.2.1 Sociopolitical Environment in China. Chinese society and its sociopolitical environment is complex due to its unique history and culture [54]. Deeply rooted in the concept of social hierarchy emphasized by Confucianism, the central state has consistently been deemed as the apogee of society and authority, enjoying the preponderant position over all others throughout China's history [34]. In other words, the idea that different sources of authority could coexist, and that power should be shared with other groups and the nation's citizens, has been regarded as ethically

invalid. This is still true in today's contemporary communist regime. Scholars point out that under Xi's rule, power has shown to be re-centralized in the paramount leader [48, 58]. Xi has initiated a series of campaigns and policies to restore the loss of "ideas of conviction" by CCP members and government officials, such as the anti-corruption campaign, for the sake of restoring the party's reputation and regaining public support [17]. At the same time, scholars suggest such policies can in turn justify and strengthen the legitimacy of the CCP governance.

Past research has shown that the overall management of public opinion through the internet has become more centralized under Xi [11]. As Xi noted in his report to the CCP national congress in 2017, the party would strive to "maintain the right tone in public communication" and "strengthen the penetration, guidance, influence, and credibility of the media," especially on the internet [87, p.37]. On this note, technology-driven tools have been introduced and utilized in massive bids towards censorship and surveillance, such as the social credit system [12, 46], in the hope of regulating controversial practices and social control [11, 44].

2.2.2 *Official Media in China.* The term "official media" refers to state-owned media that is controlled or influenced by the state [80, 82]. A key critique of official media is that it features an agenda that communicates political values and practices that, in turn, impact public attitudes toward political issues [51]. In China, official media is often considered to be the government's mouthpiece with the central mission of guiding and supervising public opinion [88]. According to Xi, "The media run by the party and the government are on the propaganda front and must have 'Party' as their family name" [5, p.159]. Popular traditional Chinese official media outlets include *People's Daily, XinHua News,* and China Central Television (CCTV).

Prior CSCW research has investigated the use of official media by Chinese citizens and compared it to the consumption of citizen-generated news on social media platforms [80]. According to Wang and Mark, official news media has gone through "diligent fact checking, editorial oversight, and governmental curation," all of which are processes that grant a certain level of accountability [80, p.600]. Through a large-scale survey, these researchers found that Chinese citizens trusted official news and news generated by people on social media to a similar level. In addition, their findings suggest that one's political views could impact one's trust toward news about the government.

Recent research on official media in China has focused on the government's efforts toward disseminating official news and information through third-party social media platforms such as Weibo (a Chinese microblogging platform). Schlæger and Jiang suggest that official microblogging is rooted in the larger effort of administrative and social management in China and the inevitable technological change [63]. According to these researchers, the adoption of government microblogs is driven by the Chinese government's (a) perceived public pressure, (b) perceived necessity of public opinion monitoring and guidance, and (c) goal of becoming a service-oriented government. Leveraging existing social media can effectively facilitate the dissemination of rich and real-time information and present governmental achievements to the public [91]. However, the nature of third-party platforms makes it difficult to manage information with negative connotations.

In contrast, XueXi is an online community and digital platform *owned* and *implemented* by the state [38]. With this platform, the Chinese government has pushed its official media into a new dimension, one that has not been considered in past literature. Our paper contributes to this body of work by identifying how XueXi users who work closely with the CCP and the Chinese government have reacted to this new form of official media. Furthermore, we extend the existing discourse in CSCW related to trust in official media by unpacking what elements influence the public's attitudes and gratifications regarding official media.

2.3 The Discourse on Politics in CSCW and HCI

CSCW researchers have investigated how digital collaborative systems assist governments with governing as well as engaging the public on political issues. One major focus in this line of research is examining technology's role in facilitating political and democratic participation. Recently, Nelimarkka conducted a systematic review of this [52] and suggested that most studies related to democratic participation focus on government-related issues such as participation in policy-making (*e.g.*, [1]) and city planning (*e.g.*, [43]).

Another growing line of CSCW research focuses on social media's role in facilitating online political communication. Hemphill et al., for example, investigated government officials' use of Twitter [28]. They found that officials tended to use social media as a broadcasting platform to advertise their political positions instead of engaging with the public in dialogue. Past literature also highlighted that the nature of social media tends to group like-minded individuals together can result in "echo chamber" [18] effects, which hinder access to diverse political opinion (*e.g.*, [23]). Likewise, Gonawela et al.'s investigation into four national leaders' tweets reveals social media as a performative space for critical rhetoric and political tactics. The online space enables like-minded individuals to easily form alliances, leading to further political polarization [21]. The power of social media in influencing the political discussions is not limited to Western societies. In a recent analysis of political social media, researchers found that leaders in middle- to low- income nations in the global south use social media for purposes including signaling (*i.e.*, image management and political branding), reaching elite populations, and bypassing the mainstream media to speak directly [55]. These researchers also highlight that cultural and political differences influence these leaders' political communication. These findings suggest a unique and powerful role that digital platforms and social media can play by facilitating political communication and governance from the perspective of a governing body or political leaders.

Political communication under a regime with heightening control over freedom of speech, however, looks different. Past HCI scholars have examined how citizens of such states navigate censorship for political participation. Given the authoritarian political context to which our study participants belong, we examined past literature that investigated citizens' perception, awareness, and actions online when faced with strict internet censorship. Past studies found contradictory attitudes from Chinese citizens who were both proficient at bypassing censorship to share sensitive information and comfortable to some extent with their limited access [39, 78]. Wang and Mark suggest that such complex attitudes are influenced by individuals' varying demographic backgrounds, experience with the Internet, and personality traits [78]. Kou et al. attribute this phenomenon to Confucianism teaching and highlight the importance of considering national and socio-historical context in understanding online censorship [39]. Another case study under the context of Chinese internet censorship revealed similarly nuanced attitudes from Chinese citizens. During the 2016 Taiwan election, a sizable group of Chinese nationalist netizens breached the Great Firewall and collectively trolled Taiwan's political leadership online [89]. Yang et al. characterized their actions by tensions from two conflicting goals – sending pro-state messages and breaching the rules and norms set by the state. The multi-layered and manifold nature of these research findings open up opportunities for us to further investigate the online space under governmental censorship and citizens' experience within it.

The implementation of XueXi resides in a unique space and context as it directly involves stakeholders like the central government and officials, and it inherits affordances of official media and online communities. We believe that the implementation and proliferation of XueXi in China provides us an opportunity to extend all the aforementioned lines of research in CSCW and the broader HCI scholarship.

3 METHOD

3.1 Study Approach

To understand the uses and gratifications of XueXi, we conducted a semi-structured interview study. We chose a qualitative approach for this study because of its exploratory nature. Through qualitative interviews, we could better understand the different types of usage on XueXi, as well as the motivations and challenges associated with the platform. We were also able to uncover topics that we did not previously think of by allowing more freedom in participants' sharing of thoughts. However, we acknowledge that it was difficult to recruit a larger sample size due to the political nature of the platform, making it more challenging to conduct a large-scale quantitative study on our target population.

During the interview session, we first invited our participants to talk through how they normally interact with XueXi. We asked them to think aloud [77] and describe their ordinary activities on the tool. We then prompted our participants with questions about their usage, motivations, thoughts on the point and ranking system, and negative and positive experiences with XueXi. Some of our questions include, *How did you first hear about XueXi? What do you use XueXi for? What are features you enjoy the most, and what are ones you enjoy the least?* And *Have you noticed any negative and positive changes in your life since using XueXi?* In addition to interview questions, we also allowed time for users to freely share their thoughts about XueXi and probed deeper when appropriate.

3.2 Participants

Our participants were recruited in two major cities in China and their nearby rural areas. As described earlier, most users of XueXi are those who work in the public sector (*i.e.*, governmental and educational institutions, state-owned enterprises) and party units in the private sector. As such, we recruited our participants mainly through word-of-month and snowball techniques [65]. To be eligible for our study, participants needed to (1) be at least 18 years of age and (2) have been using XueXi for at least three months. We stopped the recruitment when we felt that our data had reached the point of saturation [26].

In total, 28 people were willing to participate in the study. Table 1 provides basic demographic information about our participants. The average age of our participants was 42.2 years old (SD=9.8; 4 in 20s, 5 in 30s, 12 in 40s, and 7 in 50s). Among our participants, 10 were civil servants and staff at the public sector, 7 were intellectuals and educators (including 3 professors, 2 college faculties, and 2 elementary school teachers), 4 worked for state-owned enterprises, and 7 worked for the private sector or owned private businesses. The average reported length of using XueXi was 4.1 months. Of these 28 participants, 13 were female, and 15 were male. Most of our participants were from the urban area (N=21) while seven participants were from the rural area. Our sample biases users from the urban and middle-aged individuals, although without a reliable point of reference, it is difficult to say whether this deviates substantially from XueXi's overall user base. In addition, most of our participants were members of CCP (N=23), one participant was part of China Democratic League (CDL), and four participants did not have any political affiliation.

3.3 Data Collection and Analysis

We conducted our interviews in June and July 2019. All interviews were conducted in a location of the participant's choice and lasted between 20 and 60 minutes and were on average 35 minutes long. Participants were not compensated for their time. Interviews were conducted in Mandarin or local dialects by two Chinese-speaking authors. We sought approval from our participants to audio-record the interview. Out of 28 interviews we conducted, 22 were audio-recorded and transcribed. Six participants declined to record the conversation, thus we relied on the corresponding extensive

ID	Gender	Age	Months of XueXi Use	Job	Party	Location	ID	Gender	Age	Months of XueXi Use	Job	Party	Location
P01	M	51	5	Professor	CCP	U	P15	F	47	3.5	Public School Teacher	–	U
P02	F	52	4	Civil Servant	CCP	U	P16	F	33	3	Public Institution Staff	–	R
P03	M	44	4	Civil Servant	CCP	U	P17	M	47	7	Police Officer	CCP	R
P04	M	53	3	University Staff	CCP	U	P18	F	49	4	Accountant	CCP	U
P05	M	40	3	Civil Servant	CCP	U	P19	F	48	3.5	Public School Teacher	–	U
P06	F	54	3	Professor	CCP	U	P20	F	35	5	Public Institution Staff	CCP	U
P07	F	26	4	Student Counselor	CCP	U	P21	M	28	4	Civil Servant	CCP	U
P08	M	47	3	CPPCC* Member	CDL	U	P22	M	30	5	Engineer	CCP	U
P09	F	55	3	Civil Servant	–	U	P23	F	44	4	Civil Servant	CCP	U
P10	M	55	3	Professor	CCP	U	P24	F	25	5	Designer	CCP	U
P11	M	46	3.5	Engineer	CCP	U	P25	M	42	4	Business Owner	CCP	R
P12	M	33	5	Village Officer	CCP	R	P26	M	49	3	Business Consultant	CCP	U
P13	F	31	5	Business Owner	CCP	R	P27	F	26	5	Sales Associate	CCP	R
P14	M	40	4.5	Doctor	CCP	R	P28	M	52	5	Civil Servant	CCP	U

Table 1. Participant Demographics.
*: Chinese People's Political Consultative Conference
Party: CCP=Communist Party of China, CDL=China Democratic League, dash=no affiliation; Location: U=Urban, R=Rural

notes for the analysis of those interviews. Upon data collection, we removed all personally and organizationally identifiable information. This study was approved by the university Institutional Review Board (IRB), and we received oral consent from each participant before the interview.

In terms of the data analysis process, we adopted the approach used in a prior HCI paper in which interviews were conducted in Chinese [47]. For this paper, we focused on the content related to gratifications of XueXi as well as the factors that influenced users' gratifications in our interview transcripts and detailed memoranda, and we analyzed the data through a process of inductive thematic analysis [4]. Specifically, two native Chinese-speaking authors first open coded the transcripts and memoranda individually and then met to gain consensus on their codes. All the codes were then translated into English by these authors. Following that, the research team met and conducted another two rounds of focused coding to identify salient themes of users' gratifications and their influencing factors.

4 DESIGN AND IMPLEMENTATION OF XUEXI

In order to provide more context, we begin with a analysis of XueXi's key features and its target users. Thereafter, we introduce the onboarding process for new members and the adjustment of the external rules around XueXi based on our observation and interview Taken together, we believe all these aspects are critical in illustrating the unique sociopolitical nature of XueXi. Note that XueXi has been undergoing constant updates, therefore we describe the system features as of July 2019, the time when we conducted our research activities.

4.1 Key Features of XueXi

According to XueXi's official description on Apple's App Store, the application aims to achieve an "organized, moderated, instructed, serviced" style of study among the individuals through "organizational management" and "rewarding systems" [70]. Overall, XueXi is a state-run online platform that archives a huge variety of content. In particular, when a user opens up the application, they will first see the official news regarding Xi and other government officials, along with Xi's political philosophy on the main page (Fig. 1a). While the platform also offers a variety of new categories, the political news cannot be bypassed or customized by users, which illustrates the central purpose of XueXi as an official media outlet for political communication. Besides news feeding, users can find free selected video resources, including Massive Open Online Courses (MOOCs), mainstream movies and TV shows, documentaries about Chinese and CCP history, and short videos that "communicate positivity" [90] (Fig. 1b & 1c). XueXi also provides a specific built-in

communication and collaboration tool that serves as a social networking platform which allows offline communities, such as workplace groups and party units, to communicate online [70]. Users can send messages to their contacts and groups regarding workplace and party activities.

The key feature of XueXi is its "study point" system. This gamified system allows users to earn points through various online activities. The platform details which activities are expected from each user every day and provides a daily progress report to guide users with their usage (Fig. 1d). Four major types of activities can contribute to the point system: (a) checking-in, (b) consuming official media (*i.e.*, reading news articles and watching video clips), (c) completing trivia questions (*i.e.*, completing multiple forms of trivia challenges on a wide range of topics, such as recent state political agenda, traditional poems, and helpful life hacks), and (d) commenting and sharing to users' personal social networks through WeChat and Weibo. Moreover, XueXi employs a gamified ranking mechanism — the system ranks users based on their total score. As of July 2019, users can see the top-ranked individuals on the group leaderboard (Fig. 1e). At the same time, each user can see their own group-wide and nation-wide rankings. Moreover, users can later redeem their points for incentives and rewards, such as mobile data [60]. Together, this gamified point and ranking system can effectively guide user activity on XueXi, as well as quantifying each user's intake of official media and participation in political communication.

4.2 Target Population of XueXi: An Intermediary between the State and the Public

XueXi's target users do not represent the overall population in China. As described earlier, XueXi is not targeting all Chinese citizens but only those who work in the public sector, such as civil servants and intellectuals, and CCP members in the private sector. We can consider XueXi's target users as key players in the "third realm" that acts as an intermediary between the central state and the general public, based on Phillip Huang's definition [31]. In particular, scholars in China studies stress that the Western binary state-society opposition does not apply to contemporary China, as the boundaries between the state and the civil society are blurred in a Chinese context [12, 31, 73]. In other words, this third space is where the state and the public society overlap and collaborate, which in turn highlights unique characteristics of XueXi's target population and the complexity of the Chinese political system.

First, this subgroup of China's population tends to have higher sociopolitical status compared to the general Chinese population [42], which is reflected in our participants' professional identities and political affiliation. Second, individuals in this group tend to share similar political views and have higher trust in and adherence to CCP and, in general, governmental organizations when compared to the general public [42]. These individuals are also shown to be more supportive of the regime's norms and institutions [9]. Third, as part of the "third realm", these individuals are influenced by both state power and the societal power [31]. On the one hand, these individuals play the key role of connecting two distinct contexts, both the state and the public society; on the other hand, they are in the space where two contexts collapsed into one another. Past scholars suggest that these individuals with higher sociopolitical status pose the biggest challenge to the stability and legitimacy of the communist regime compared to masses as they tend to have more resources and knowledge [79]; at the same time, these individuals are expected to provide "moral persuasion" in order to improve the perceived accountability and reputation of the government among the public [34]. On this end, we believe XueXi can be viewed as the continuation of Xi's thoroughgoing anti-corruption campaign and moral restoration movement among XueXi's target population for the purpose of reclaiming popular support. We return to this point in our qualitative findings and discussion.

4.3 User Onboarding Process

One has to register for an account in order to access content on XueXi. The onboarding process of XueXi illustrates two key characteristics of the XueXi community — it is a real-name system and it is grounded in the existing offline communities.

4.3.1 A Real-Name System. First, users have to use their real name and a valid phone number to apply for a XueXi account, which means one's online identity on XueXi is consistent with their real-life identity. Then, users need to complete a real-name verification process. The verification requires users to provide their government ID number and take a selfie that matches the government ID photo [2]. While providing identifiable information in the online settings has been shown to be effective in preventing deception online (*e.g.*, spreading false information) and promoting accountability [6, 81], it could lead to greater sense of control and surveillance [81].

4.3.2 Supporting Offline Community Online. Second, the administrator of the offline workplace unit or the party unit has to set up an online "learning group" on XueXi and then add all the related individuals who belong to this group. This way, users are clustered on XueXi based on their existing offline communities at the organization or CCP unit. As noted, this online space was designed to facilitate offline working activities and management. For example, group members can send messages and share files on their group cloud drive. More importantly, the gamified point and ranking system is also operated on the group level. This way, the offline norm and rules at the workplace and party unit would naturally migrate to the online XueXi group [59], and the group members' roles and behavior would reflect their offline roles [37].

4.4 Policy and Rule Adjustments

As noted, XueXi has been undergoing constant adjustments and updates. Based on our observation and interviews, we identified two key changes in the policies and rules governing the use of the platform, including an organizational policy change (*i.e.*, removal of the mandatory use) and a platform design change (*i.e.*, removal of the full ranking list).

4.4.1 From "Mandatory" to "Encouraged" Usage. When XueXi was first launched, many of the organizations had taken serious measures to ensure all employees were staying active on the platform. In other words, the use of XueXi was mandatory in its early stage. However, it is notable that such compulsion was *not* mandated by the central government [38]. According to our participants, the mandatory use of XueXi was no longer enforced in most groups and organizations since May 2019, making the use of XueXi an "encouraged" activity. However, the motive behind such policy adjustment is unclear.

4.4.2 From Full Ranking List to Leaderboard. Another major change lies within the ranking system design. When XueXi was first launched, users could see the full ranking list of their group. In other words, one's points and ranking were visible to their organization, party unit, and all group members. However, since late March 2019, the full ranking list was replaced by the leaderboard which only displays the top-ranked users within the group [8]. This way, users can no longer see other group members' points and rankings, and are aware that others would not see theirs unless they become top-ranked in their group. At the same time, users can still see their own group-wide and nation-wide rankings. While we do not know for sure why the platform introduced such changes, we speculate that the platform has reduced the social and peer pressure for getting points and ranking high in the group by making users' points and rankings more private.

5 FINDINGS

5.1 Uses and Gratifications of XueXi

In this section, we address RQ1 by discussing the seven most salient needs for using XueXi that emerged from thematic analysis [4], namely (1) compliance, (2) self-status seeking, (3) general information seeking, (4) job support, (5) entertainment, (6) patriotism, and (7) learning (see Table 2).

5.1.1 Compliance. As described earlier, it was reported that individuals who work in governmental organizations, education institutions, and public government-owned institutions, as well as members of CCP, are asked to actively engage with XueXi [45]. *All* of our participants stated that they downloaded XueXi because it was initially *mandated* or *recommended* by their work units or party units in January and February of 2019. Most of our participants acknowledged that they considered downloading the application another task they had to complete at work or at the party unit. For example, P21 described how he was introduced to XueXi:

> *It was the chief of my work unit who sent us a notice asking everyone to download the application [on their phones]. But they didn't mention anything else, so I just downloaded the app and completed the task. [...] I considered it the same as all the other work tasks that are transactional.* (P21, M/28/CCP/civil servant/U[3])

Since most users first joined the platform to comply with the external mandates from their organizations, many of our participants considered the initial action of downloading and using XueXi as "*lacking autonomy*" or "*somehow forced.*" For example, P24 described the alienated feeling she had on using XueXi at the beginning:

> *At the beginning, it wasn't a very autonomous decision for me to download it. I downloaded it because there was this studying task. And I don't think I wanted to use this app very much, instead, I just had to let it be a must in my daily life.* (P24, F/25/CCP/designer/U)

Even though participants downloaded XueXi on the phone due to compliance, some reported that they did not actively use the app until they found out the app usage might associated with potential external punishments. For example, P16 stated that she had no interest in using XueXi after she was required to download the platform. However, she began to use the app when she started worrying that her app usage and scores could affect her performance assessment and year-end key performance indicators (KPIs).

In addition to linking the app usage to one's KPIs, some organizations implemented monetary punishments made contingent on one's performance on XueXi at the early stage of the app's promotion. For example, P27 noted that a portion of her monthly salary was determined by the total score she achieved on XueXi, thus she had to actively use the app beyond her traditional working hours in order to get her full salary.

> *Honestly, I didn't have positive feelings at the beginning because my organization [...] linked this app to our salary assessment. This gives you a kind of invisible pressure. If you can't meet the requirement, you might not be able to get all of your salary at the end of the month. Of course no one is willing to have their salary deducted.* (P27, F/26/CCP/sales associate/R)

5.1.2 Self-Status Seeking. The second most salient gratification of XueXi was self-status seeking. As noted, users had to complete certain activities on XueXi to get study points every day. As a result of completing the required tasks on the app, some of our participants reported that checking scores and rankings had become their main focus when using XueXi. For these participants, they tended

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[3]Participant's demographic information is formatted as Gender/Age/Party Affiliation/Job/Location

XueXi Uses and Gratifications	Count	Percentage
Compliance	28	100%
Self-Status Seeking	17	60.7%
General Information Seeking	17	60.7%
Job Support	14	50%
Entertainment	12	42.9%
Patriotism	10	35.7%
Learning	9	32.1%

Table 2. Uses and Gratifications of XueXi and Corresponding Number of Participants

to interact with the application in the way that can give them the highest scores. For example, P19 described her motivation for using XueXi:

> *How I use the app is guided by the rules on getting points. If I could complete the trivia for higher scores, I'll just go straight to the trivia section.* (P19, F/48/no political affiliation/elementary school teacher/U)

Similarly, P11 described his early experience of using XueXi as "*purposeless*" beyond wanting to reach the daily points limit to get ahead on the leaderboard. In other words, our users who were driven by getting higher ranking tended to focus more on the *activity* of using the system and getting points itself, but they might ignore or set lower priority to the actual information they get out of such activities.

We can understand participants' motivations behind self-status seeking through the social comparison theory [16], which explains how people compare themselves to others for the sake of self-enhancement (*i.e.*, enhancing the positivity of one's self-concept [86]) and self-assessment (*i.e.*, getting an accurate evaluation of the self [64]). In particular, for those who were motivated to achieve high score and ranking, they believed that they were driven by their own sense of achievement, which aligns with *self-enhancement*. For example, P13 acknowledged that she wanted to maintain the top user position in her village due to her "*strong desire to excel.*" Similarly, P20 has stayed as the top-1 user at her work unit over the past few months. She admitted that:

> *I am particularly happy when I'm ranked on the top, even if I wasn't given any material rewards. Don't people always like that feeling? When I got the top rankings, I more or less still feel a sense of superiority. [...] When I'm not busy, I would check who I surpassed on the leaderboard everyday. There was this tiny little feeling of vanity in my mind.* (P20, F/35/CCP/public institution staff/U)

In addition, peer pressure brought about by other people's performances motivated our participants to get higher scores. This is aligned with the extensive past HCI research on using gamification tools, such as leaderboard and badges, in interactive design [13]. Our participants also noted that seeing their supervisors on the leaderboard could motivate them to achieve more on XueXi:

> *We have the top leader of our party unit on XueXi, and he ranks at the top of the leaderboard. [...] Although I can't do it like him, I think he seems to be a target there, like a Big Dipper pointing in the right direction. I feel that as an associate, I should use XueXi every day since my top leader is using it so seriously.* (P23, F/44/CCP/civil servant/U)

In contrast to *self-enhancement*, some of our participants expressed that their score and ranking lead to *self-assessment*. Some of our participants disclosed their desire to avoid failure and a feeling of guilt after finding they've ranked behind those around them. For example, P21 acknowledged that he felt "*a huge distance from his own expectation*" when seeing his coworkers had higher scores than him on the leaderboard, which stimulated him to use the application more to "*at least not rank at the bottom.*" P2 also stated: "*one's score was the only thing that every user in the group could see. If you have a low score, you may feel as though you were passive and left behind, so you'll work hard*

to find ways to improve your score." In other words, compared to the gratification of compliance, self-status seeking often entail expectations and punishments set up by our users themselves based on the external standards, which in turn influences their use of the system.

5.1.3 General Information Seeking. The next salient reason for XueXi use was general information seeking. Over 60% of our participants (N=17) reported that they have adopted XueXi as a source for general information. For these participants, using XueXi to follow official news has been brought into congruence with their own need to stay informed of local, national, and international issues and events with high quality content. For example, a college professor (P10) stated that "*watching the official news has been a must for me anyways, and the app has just made it very convenient for me.*" He considered listening to CCTV's News Broadcast (*i.e.*, Xinwen Lianbo) on XueXi as a new part of his daily routine — it has become the first thing he does in the morning when he wakes up. Similarly, P11 described:

> *While I'm preparing breakfast, I would normally utilize this time to listen to the News Broadcast. There is a great amount of information inside, so I can grasp all kinds of necessary knowledge, including all the national and international news from the previous day. [...] I personally think it's very important to our [...] life in general — like the weather forecast inside the app could even guide you on what to wear.* (P11, M/46/CCP/engineer/U)

These participants expressed a high degree of trust to XueXi as an official media outlet. They considered information they sought on XueXi to be "*authoritative*", "*diverse*", and "*timely*". Moreover, our users believed that XueXi filtered out inaccurate news, which in turn guaranteed the authenticity and quality of the presented information. P3, for instance, compared XueXi with the other popular online news platforms. He considered XueXi to be a more comprehensive channel while other platforms were overly "*mundane and tedious*":

> *XueXi presents very heterogeneous and diverse information. It allows you to seek whatever information you need. [...] Platforms like TouTiao and Baidu News only present you information through big data analysis. The current Internet has a hodgepodge of information with a mix of quality, right? These platforms will recommend you similar information based on your browsing history.* (P3, M/44/CCP/civil servant/U)

Overall, this gratification of information seeking validates the speculation from the prior CSCW study that people who agree with the government tend to trust official media that offers government sanctioned information over news on social media in China [80].

5.1.4 Job Support. Half of our participants (N=14) saw specific content on XueXi, such as political and economic news, as relevant to their professional activities. P8 was a member of the Chinese People's Political Consultative Conference (CPPCC) [83], and he defined the key duty of a CPPCC member as "*speaking out for people.*" He identified that getting official and timely updates on XueXi's news section could contribute to his role as a CPPCC member and help him make effective proposals for citizens.

> *As a CPPCC member, if we don't follow the country's policies closely, then our work could go off the rails. XueXi can point out the direction for CPPCC members to make proposals, which is very helpful. Through XueXi, we can understand the areas that our government wants to focus on. This way, CPPCC members at all levels could speak out together to form some synergy and get some high-level attention to helping the people's livelihood and well-being.* (P8, M/47/CDL/CPPCC member/U)

For users with the gratification of job support, their activities on XueXi tended to involve the process of active content selection — they chose functions and information that are relevant to

their identified professions and fields, which yields a relatively high level of self-determination. For instances, P11 was a transportation engineer, and he chose to focus on content related to construction material and gasoline; P17, a police officer, appreciated the benefits of reading law and legislation-related articles; P22 was an official document editor, and he found MOOCs regarding professional writing applicable to his professional duties.

In sum, the job support gratification can be caused by (1) XueXi's key affordance of increasing users' awareness of political events and policy updates, and (2) XueXi's unique target market of CCP members as well as individuals who work in public and educational institutions. Our data suggests that providing necessary content and resources to support and guide users' professional identity can be one of the key goals of implementing XueXi. P23 analyzed how XueXi was supporting the specific professional needs of its users:

> I think the country aims to offer a relatively positive channel for national publicity to those who work closely with the government, because for civic servants like us, every word you say in a civic forum represents the country and the government. So in my opinion, XueXi's earliest promotional push was providing us with positive guidance on our public outreach and behaviors. (P23, F/44/CCP/civil servant/U)

Similarly, P10, a college professor, argued that the essential purpose of implementing XueXi was to "*remind its target professionals of the good Chinese morals and traditions.*" On this note, through offering professional support and propagating values that align with the government's ideology, XueXi encourages its users to become the "ethical example" in the realm of general public – a notion that is emphasized in traditional and contemporary Chinese politics [34, p.262]. At the same time, such notion also illustrates our earlier analysis that XueXi manifests the Chinese government's recent focus on fostering the general public's trust towards the party and the government through improving its cadres' accountability.

5.1.5 Entertainment. A great number of our participants (N=12) reported that they used XueXi for entertainment — "*I use the app out of fun and my interests.*" In some cases, participants reported that they found the trivia game amusing and interesting. P15 said, "*other people might like to play games on their phone, but I just consider answering trivia questions as a mobile game and play it again and again.*" Similarly, P17 shared how the trivia game had become a source of entertainment to him over time:

> Over time, I find myself enjoying [trivia challenges] more, and now I play it for entertainment purpose. It's sort of like the TV reality shows that have people compete in Chinese classic poems, I felt I could use my experience and knowledge to infer the answers. (P17, M/47/CCP/police officer/R)

In other cases, some participants watch movies and TV shows on XueXi for entertainment. These users stated that all these videos on XueXi were ad-free and 1080p, making it stand out from the rest of video streaming platforms. Moreover, as P20 noted, XueXi had a range of movies and TV shows available, from mainstream to difficult to find on other services. For example, XueXi curated retro movies related to the Second Sino-Japanese war and TV shows about old-time love stories, and such selection could satisfy some users' tastes.

5.1.6 Patriotism. Of our 28 participants, ten (N=10) reported patriotic pride as the gratification of using XueXi. Patriotism indicates one's positive emotional attachment to their country [25, 29]. Through using XueXi, these participants described feeling "*inspired*", "*motivated*", and "*hopeful*". P28 summarized that users' patriotism gratification could reflect the country's *Confidence Doctorine* [84], including confidence in the country's chosen path, political system, guiding theories, and most importantly, confidence in the culture.

To some participants, such feelings were prompted by an identification with the past, especially an attachment to traditional Chinese culture and the "century of humiliation." In one case, P25 believed that the promotion and restoration of historical knowledge related to Confucianism and Taoism through XueXi would be able to foster people's pride of and attachment to a national identity. Likewise, P23 stated that she believed such restoration would be especially important to modern China after the country's territory and values have been threatened by Western colonialism.

Moreover, our participants considered using XueXi as a way to develop their sense of social responsibility as Chinese citizens in the digital age. For example, P16 highlighted that following positive news on XueXi and understanding the governmental achievements, both domestically and internationally, made her feel proud of the country. Likewise, P17 stated that using XueXi developed his understanding of China's rise as a global power, which leads to a feeling of patriotism:

> Using XueXi made me realize that as a Chinese citizen, a civil servant, a party member, and a policeman, I should contribute something to my country. Our country needs patriotism and contribution from every citizen to stay well and prosperous, because one has to have a country to have a family. (P17, M/47/CCP/police officer/R)

Overall, we would like to emphasize the central role that China's historical and international contexts plays in developing the linkage between the platform and our participants through their patriotic feelings. In the case of XueXi, we found that such emotional commitments and the use of the platform feed into each other. In other words, the development of patriotic emotion afforded by engaging with XueXi could, in turn, encourage some users' further commitment to the platform.

5.1.7 Learning. Finally, among 28 participants, nine (N=9) reported the gratification of learning and self improvement. As stated by P10, these participants tended to consider using XueXi as a self-initiated behavior which "*promoted real growth and learning in users.*" P11, for instance, described that after exploring XueXi by himself, he found he was fascinated by the great amount of content related to classic Chinese literature on the platform. Specifically, this has shifted his activities on XueXi from getting points to "*satisfying the thirst for knowledge.*"

We found that this group of users were more willing to explore XueXi by themselves and seek content and functions that were more personally meaningful, which shows a relatively high level of autonomy. For example, it was through XueXi that P2 found out about the concept of MOOCs. Listening to online courses on various topics including economics, medicine, and nature on XueXi has become an activity that she was "*obsessed with*":

> If I found something interesting [on XueXi], I would stay on that section longer and find out more interesting things; otherwise, I would just navigate to the next section. [...] In fact, there's still a huge amount of things on XueXi yet to see. I feel as though I haven't spent enough time to explore and discover them but they can really enrich your life. (P2, F/52/CCP/civil servant/U)

In other cases, some participants also reported their motivation of using XueXi to search for professional and academic material. These participants highlighted that they used XueXi to replace some existing knowledge sharing platforms like Baidu Zhidao due to its authority.

5.2 Influencing Factors of Uses and Gratifications

In this section, we address RQ2 by identifying three major factors that influenced U&G of XueXi: (1) users' perceived surveillance regarding their use, (2) the nature of users' professional identity, and (3) the contextual factors of the organization.

5.2.1 Perceived Surveillance. Perceived surveillance and monitoring was the most significant influencing factor in our analysis. Our results revealed three forms of surveillance associated with

one's use of XueXi: *platform surveillance*, *interpersonal surveillance*, and *organizational surveillance*. In general, we found that a higher degree of surveillance perceived by users resulted in greater extrinsic motivations (*i.e.*, *compliance* and *self-status seeking*).

Users expressed a relatively high degree of *platform surveillance* when XueXi originally made their performance (*i.e.*, points and rankings) public to the group. P12 noted that the group administrator was able to track the usage analytics of each group member through the admin portal. This, in turn, heightened users' awareness of the monitoring of their activities through the platform.

As a result of high platform surveillance, a large number of participants were motivated to use XueXi out of self-status seeking (*i.e.*, getting more points and higher ranking), which resulted in higher perceived *interpersonal surveillance* from colleagues and peers. However, in reaction to the adjustment from a full ranking list to a top user leaderboard, P15 admitted that her feeling towards the monitoring from colleagues was adjusted accordingly: "*it doesn't matter if you have a low score anymore because no one could see the full ranking anymore, only the top 10 are visible now.*" Likewise, P28 described his observation on how users' motivations were influenced by the decrease in users' perceived interpersonal surveillance:

> *At the beginning, when people could see others' points, it felt as though everyone was chasing after each other, there was a feeling of competition in it. [...] Almost everyone could reach the maximum points every day. If you didn't try your best, sorry, you would rank down. [...] However, because of the change to the leaderboard rules, you can't see people's [points], and that situation of competition was immediately gone.* (P28, M/52/CCP/civil servant/U)

Our participants also raised concerns about the *organizational surveillance*. P16, for instance, said that "*the group would compliment those ranked in the top 10 and critique those in the bottom 10 at the end of each month.*" Besides, organizational surveillance could be also resulted from the potential punishment, such as connecting XueXi use to KPIs or salary. Some participants reported that they began to spend less time on XueXi after the mandatory use of XueXi was no longer enforced in their organizations since May 2019. P3 hypothesized that this was because "*human beings draw on benefits and avoid pitfalls*" — in the case of P3, once the pressured evaluation was no longer imposed at his organization, he wanted to "*take a rest from using the app.*" He added, "*it was a pity that I didn't want to open the app anymore even though I found interesting things on the platform.*"

Finally, some users reported an increased desire to explore content that they were personally connected to once they felt a lower level of surveillance on the platform. To them, not receiving immediate feedback on surveillance (via the points system) lead to the perception of decreased surveillance, which thereby granted them a higher degree of autonomy and motivated them to use XueXi with an internal driving force. P2 noted,

> *Later on, I discovered MOOC [on XueXi] and thus no longer care about scores and rankings anymore. [...] The point system requires what you have to do, what articles you need read, and what trivia challenges you need to complete every day — most of these are not necessarily aligned with my own focus and interests.* (P2, F/52/CCP/civil servant/U)

5.2.2 Nature of Professional Identity. The second influencing factor that emerged from our analysis was the nature of users' professional identity. Recall that half of our participants saw official information delivered on XueXi helpful for their job activities. We found that these participants were more likely to hold positions directly within governmental or party organizations. They considered XueXi as part of their work and expressed an overall higher relatedness to this state-owned platform. For example, a government official (P16) said "*I consider using XueXi everyday as a political task for my work — it is something that I need to get done, like many of my other work tasks.*"

As such, membership in the public sector lead to greater resonance between the political aspects of XueXi and the individuals' professional selves.

By contrast, those who worked in the private sector (*i.e.*, business owner (P13, P25, P26), doctor (P14), designer (P24), sales associate (P27)) did not express particular interests in political content or consider *job support* as their major gratification. These individuals tended to show the "*none of my business* (P13)" attitude to the official news and political information delivered on XueXi. Even though all these participants who worked in the private sector were CCP members, the nature of their professional identities could still alienate them from politics. P27, a sales associate, explained that official media should not be a major component of her life:

> The content on XueXi is not amusing but more formal. [...] one's life shouldn't always be so formal and one has to find some amusing things. So I still follow paparazzi on Weibo, read hot-button topical articles on TouTiao, and watch funny short videos on TikTok. (P27, F/26/CCP/sales associate/R)

As a result, compared to those with more political-oriented professional identities, individuals who work in the private sector were more likely to participate in the XueXi community out of *compliance*. They were also less likely to actively stay on the platform once the mandated requirement was removed, and they were more reluctant to explore the platform.

5.2.3 Organizational Context. Finally, we found that organizations had different policies in regards to downloading and using XueXi. In general, organizations and institutions that are more affiliated with the state tended to "recommend" their staff to engage with XueXi, and they often allowed more flexibility on app usage. More specifically, these organizations tended not to compel the users on how long or how often they should use the app, even when XueXi was first launched. A civil servant from a province-level governmental organization (P28) described:

> At the beginning, [...] there was no mandatory requirement at our organization. However, I heard that a lot of organizations, especially those on the more local level, had stricter requirements on their staff, one said they had to reach 30 points every day. (P28, M/52/CCP/civil servant/U)

In contrast, in organizations that are more local and lower in the governmental hierarchy, people were more likely to get "mandatory requirements" to download and use the app. Some of these organizations required their staff to achieve a certain number of points each day. While we do not know the exact required quota in every organization, some participants pointed out that their units were mandated to reach an app download rate of 100%.

Overall, this finding shows that the implementation and adoption of XueXi reflect the complex bureaucracy within China's governmental and party systems [7]. Tying it to the sociopolitical characteristics of XueXi's target population as noted earlier, our observation can be explained by the expansion of the state's capacity in disciplining the conduct of individuals in the "third realm," especially among those who are in the more local level organizations and thus more affiliated with the civil society [12].

6 DISCUSSION

Through our exploratory study with active users of XueXi, we have drawn attention to the unique sociopolitical nature of state-owned digital platform and its role in political communication in China. Our empirical findings have uncovered XueXi target populations' uses and gratifications of the state-owned platform as an official media outlet (RQ1). We have also demonstrated how various perspectives of the Chinese sociopolitical environment and one's professional identities can impact their adoption of the state-owned platform (RQ2), which in turn impact the effectiveness of

XueXi's mission of "guiding public opinion" [5] and restoring government accountability as the state-run media outlet targeting individuals that intermediate the state and the general public. In the sections that follow, we synthesize our findings and discuss in more detail three design insights and trends that differentiate the digital state-owned platform from traditional official media and third-party social media platforms in terms of political communication and disseminating official values, namely (1) employing direct surveillance and monitoring, (2) leveraging and fostering emotional attachment, and (3) offering a variety of side apolitical content. We critically discuss these key insights and highlight how they impact future design of platforms and technologies for political communication. Finally, we conclude with implications for future CSCW research in politics and political communication, highlighting the importance of understanding the state-owned platforms and political communication in relation to local historical, cultural, and sociopolitical contexts.

6.1 Employing Direct Surveillance and Monitoring

A recurring theme in our findings is the prevailing surveillance and monitoring associated with the state-owned platform. Recall that all of our participants started using XueXi out of *compliance* with the external mandates and recommendations, and that our participants described a relatively high-level of perceived monitoring and scrutiny from the platform, colleagues, and their organizations when using XueXi. These findings highlight that communicating political agenda through a state-owned platform like XueXi is fundamentally different from the current common means of advertising political positions through traditional media outlet and third-party social media platforms such as Twitter [28] and Weibo [63, 91]. Past CSCW findings suggest that government officials use social media platforms to advertise their political positions but seldom request any further actions from their constituents [28]. In comparison, XueXi yields a new direct monitoring mechanism for propagating and disseminating political information online, which expects users to actually "take in" the delivered material and actively participate in the dissemination.

Our results reveal a salient tension between the risk of digital surveillance posed by the authority and user's *perceived* monitoring based on the system design and external policies. Recall P12 stated that the group admin was able to track group members' usage analytics through the admin portal – so that although XueXi later removed the leaderboard to only reveal the top-ranked users, it is clear that stakeholders in power, such as system admins, organization leaders, and the state, could still access this information. We found that when users' perceived tangible monitoring (*e.g.*, exposure of performance, pressured evaluations, imposed goals) is no longer in place, they were more likely to adapt the platform as a learning and entertainment tool against the desired activities as outlined in the point system, even though the actual data monitoring was still occurring behind the scene. These observations on how people respond to immediate feedback on surveillance and monitoring reflect and extend findings in previous CSCW research in understanding how non-functional aspects of digital technologies impact the adoption of technology (*e.g.*, Orlikowski's study on implementing new groupware [53]). While the Foucauldian way of watching and being watched through disciplinary means [19] has been weaved in the fibres of modern digital technologies, individuals might gain an incomplete perception that their intimate data and behavior are not being watched over when they do not receive immediate feedback on surveillance from the system. Such incomplete perception might lead users to adopt the system different from the expected norm and change their self-presentation goals. This raises opportunities for future research to further investigate users' nuanced impression management tactics in context of surveillance. Meanwhile, this finding contributes to a large body of research on privacy that suggests users struggle to form a mental model of risk when there is limited indication of surveillance or consequence to privacy-reckless behavior (*e.g.*, [20]). Our results indicate the importance of notifying users of

potential privacy consequences through privacy notices when designing responsible and ethical CSCW systems, *i.e.*, what intimate behavioral data is being collected and analyzed, and how might such data be abused by the authorities.

On this note, a further reflection arising from our study relates to connecting multiple forms of monitoring manifested in XueXi with the broader concern of the dystopian surveillance state and China's internet governance. Our findings shed some light upon the controversial social credit system (SCS) in China, a relatively "crude" and "fragmented" system for social sorting [12]. Past research shows that the SCS was designed as a financial-oriented system that aims to encourage moral conduct of sincerity and trustworthiness in the marketplace, through aggregating each individual's behavioral data from various third-party resources and profiling one's credit scores [46]. Even though there is currently no evidence that the SCS has become a means of political control and big data technologies have yet been employed for mass surveillance purpose, Creemers argues that the Chinese government is moving towards adding the algorithmic processing of data into the systemic use to ensure each individual's information can be effectively "collected, stored, processed, shared, and used" for societal control [12]. In this sense, our observations raise the possibility that XueXi would potentially extend the monitoring in the marketplace to the arena of political communication.

Our qualitative findings suggest that the current capacities of XueXi would allow the authorities to directly collect and process intimate data related to one's political involvement, such as one's consumption of official media and their take-in of the official information. Such data could in turn be utilized in guiding and monitoring the opinion of, if not the every single citizen in the realm of civil society, the key players that connect the public and the state. On the one hand, such close monitoring might provide these civil servants with positive guidance on their outreach and behavior in both professional and social activities. Such positive guidance can in turn restore and enhance the accountability and trustworthiness of the government among the public, as illustrated by the gratification *job support*. On the other hand, these results and speculations raise important questions about the broader unintended ramifications of the heightening sociopolitical surveillance through digital technologies. How would data collected by official media platforms, like XueXi, be processed and used in the long run? How effective is such surveillance in improving trustworthiness and accountability in governance? How would such surveillance and monitoring mechanisms influence other societies in political campaign and deliberation? And how would the collapse of individual's political identity and social identity online and offline impact the landscape of future politics and people's use of the Internet? While these are beyond the scope of this study, they are the questions that CSCW researchers and practitioners shall consider and critically reflect upon, with future research needed to further investigate and unpack these domains.

6.2 Leveraging and Fostering Emotional Attachment

Compared to prior work on U&G in engaging with varying media and digital platforms [35, 56, 57, 76], our work reveals a key motivation unique to the state-owned platform – *patriotism*. Our results show that through presenting content related to the restoration of traditional culture, contemporary history of China's semi-colonial past, and China's growing power, XueXi is able to enhance users' emotional attachment to the state-run platform and leverage such passion to increase one's stickiness to the platform. Compared to the other motivations of using XueXi, patriotism perhaps best reflects the unique cultural and historical context of China. We shall interpret the relationship between such emotional attachments and the communication of political values through state-run platforms with two controversial but interweaving theoretical perspectives.

On the one hand, traditional Chinese culture makes nationalism and collectivism critical constructs of modern Chinese society as both share a correlation with patriotism [29, 30]. In *China's*

New Nationalism, Gries argues that in the view of Chinese nationalist values, one's personal identity shares a "deep-seated emotional attachment" with one's national identity [24, p.19]. He also stresses that by highlighting "party propaganda," Western academics and journalists can "dangerously trivialize the roles that the Chinese people and their emotions" play in this process [24, p.20]. On the other hand, scholars with the constructivist view argue that such emotional attachment is a result of top-down elite manipulation and engineering. They contend that patriotic and nationalistic attitudes are critical in maintaining social and political stability in China [67], and therefore the government would maintain and construct the narrative of national identity that is in favor of the existing arrangement of authorities [71]. Taken these two positions together, from perspectives of both individuals and the state, such patriotic and nationalistic sentiment are deemed important aspects of a unique Chinese identity. On this note, our work shows that XueXi users' emotional attachment to this state-run platform is shaped by their interaction with China's national identity that constitutes memories of China's civilization past as well as an understanding of modern China's development, which intertwines both individuals' personal narrative and the narrative offered by XueXi. At the same time, recall P17 stated that the use of XueXi enabled him to recalibrate his multiple sociopolitical roles and thus further develop his sense of social responsibility. Our results demonstrate how XueXi users' sociopolitical identities are positioned by, and how they proactively position their sociopolitical identities in, the narratives of emotional attachment to the country and the use of XueXi. This way, we can see both the balance of agency and constraint in the relationship between individual users and their constitutive narratives. In this light, we argue that it can be incomplete to simply criticize XueXi as a traditional top-down "propaganda tool teaching Xi Jinping Thought" [32] without considering and interpreting the origin of users' personal emotions and their agency in the engagement with the state-owned platform.

Overall, engaging with an online platform out of patriotic emotional attachment to country and national identity brings a new perspective to and opens up new opportunities for future CSCW research in political communication. Our results have demonstrated the potential impact of fostering emotional attachment in facilitating the dissemination of political agenda and supporting users' reflection on their professional identities and social responsibility. However, we shall consider these promises in the context of XueXi's unique target population, remembering the population as already more patriotic and nationalistic than the general public [71]. As such, we should be aware of the unintended and undesirable consequences when employing this strategy in future designs that target wider populations in different social contexts, consequences such as greater polarization in public opinion [15, 18, 21] and white nationalism [27], especially when considering that digital platforms like XueXi can potentially further reinforce the online echo chamber through strong patriotic emotional ties and bond-based commitment [40].

6.3 Offering Heterogeneous Side Apolitical Content

Our work also shows that individuals are attracted to varied apolitical content on XueXi. Through the U&G theoretical framework, we found similar gratifications for using XueXi as one does with personal social media platforms such as *self-status seeking*, *information seeking* and *entertainment* [35, 57], gamified learning platforms such as *learning* and *entertainment* [76], and traditional news consumption such as *general information seeking* [56]. This illustrates that XueXi aggregates a wide range of side features and content to meet various user gratifications and content curation preferences, which are not available in traditional official media outlets like *Xinhua* and CCTV.

Past HCI findings suggest that Information and Communication Technologies (ICTs) empower individuals as they help raise self-awareness and connect individuals to direct resources [14]. Recall that P2 was introduced to the concept of MOOCs by XueXi, and P7 found the app to be a channel for the renaissance of traditional Chinese culture. In this way, we shall highlight that XueXi

demonstrates its promise in empowering users by offering them open access to helpful resources like MOOCs that "*promote real growth*" and develop human capital. While such side content might not be directly political, they are selected and sanctioned by the platform and endorsed by the state as means of encouraging a more idealized populace on the moral level. At the same time, the growing user stickiness to the platform in turn supports XueXi's goal of guiding and supervising public opinion as an official media outlet. Specifically, since users are not able to bypass the home page that features Xi and political content, we speculate it might lead to their passive consumption of official information while they are using the platform to satisfy other interests. Nonetheless, the effectiveness of supporting users' morality and disseminating official information through passive media consumption requires further investigation.

6.4 Implications for CSCW

Our case study of XueXi illustrates how a modern type of "inherently political technologies" deeply intertwines with the conditions of modern politics as well as the arrangement of power and authority, as described by Winner [85]. In the former sections, we discussed three design implications derived from our empirical study on arguably the very first massive-scale political communication platform of its kind. We outlined the intended and unintended consequences of these design implications and how they situate in the specific context of China. Overall, this work contributes to a growing body of CSCW and HCI research on political communication and the use of technologies for politics, and we extend this discourse to China, a powerful non-Western society that is underrepresented in this current line of research.

More broadly, central to this work is that intertwining nature between this state-run platform and China's specific historical, cultural, and sociopolitical situation and legacies. Our analysis has shown that the potential intentions and consequences of implementing XueXi among its target populations embody and reflect values and narratives that are unique to Chinese society, which differ from the "Western model" of political communication that centers around civic participation [1], democratic deliberation [66], and campaigning [22]. Similar to the controversial rhetoric on censorship in China as identified in past CSCW and HCI research [39, 78, 89], our work has demonstrated that XueXi users' nuanced and complex attitudes towards this state-owned platform can be characterized by the tension between two seemingly conflicting goals – top-down state control versus users' agency regarding their engagement with the platform and its community. While these goals can be seen as conflicting from the Western point of view, our findings and analysis have demonstrated how they situate in the unique history and ontologies of Chinese society. We therefore argue that to interpret and analyze China and its state-run platforms, as well as other non-Western societies and the digital artifacts they adopted, in terms of Western lexicon of experience may run the risk of believing in its own universalism [10]. In this light, our work highlights that future CSCW research should critically recognize and embrace the plurality of political narratives based on the specific context of varying societies and target populations. This echoes and extends the past CSCW finding that cultural and political differences between the Western society and the global south can impact government officials' political communication [21] and the broader call for postcolonial [33] and feminist HCI [3]. In line with what Jacques once argued, the design and evaluation of future state-owned platforms and online political communication "should be seen in its proper historical and developmental context: different societies can have different priorities depending on their circumstances, histories, and levels of development" [34, p.267].

Nonetheless, we should also be aware how the XueXi model, such as employing direct surveillance and fostering emotional attachment, might be appropriated in and therefore impact other societies; what unintended consequences it might bring about; and how different sets of users might perceive such interventions. Future discourse in this domain requires CSCW researchers and practitioners

to involve both the study of specific digital artifacts and their histories as well as a thorough understanding of the concepts and controversies of sociopolitical contexts. In other words, it is important for us to critically investigate what is constructing the phenomenon in question.

7 LIMITATIONS AND FUTURE WORK

Our study has two limitations. First, we conducted this study in two major Chinese cities and their nearby rural areas; we only sampled 28 intended users of the platform; and most of our participants were users in their 30-50's. Although our participant sample includes people from various backgrounds, the experiences of XueXi users in other parts of China and potential general users who were not originally mandated to use the platform may vary. Future research can investigate XueXi's unanticipated users' adoption of the platform as well as empirically examining how younger and older adults perceive the platform. Second, the qualitative and exploratory nature of this study also makes it difficult to verify statistical correlation between the identified U&G and their influencing factors. However, note that the political nature of XueXi has made it difficult to conduct a large-scale survey on this subject matter. This might have caused some participants to hold back information or feelings [42], though we emphasized confidentiality before and during interview sessions to the best of our ability. Such concern can be illustrated by the fact that six of our participants refrained from recording the interview. Nonetheless, future work needs to further verify the results of this study through quantitative analysis and to generate insights representative of larger contexts by incorporating more geographic locations and population groups.

8 CONCLUSION

In this paper, we presented a qualitative study on the uses and gratifications of the Chinese application XueXi QiangGuo and described the factors that influence people's participation in this platform. People derive a variety of uses and gratifications from XueXi, and these gratifications can be influenced by various personal, organizational, and sociopolitical factors. We synthesized these gratifications into their influencing factors and underscored the state-owned platform's uniqueness in guiding opinion and disseminating official information, namely employing direct surveillance, leveraging and fostering emotional attachment, and offering side apolitical content for discretionary use. We critically discussed the intended and unintended consequences of these components and situated the discussion in China's unique historical, cultural, and sociopolitical contexts. Finally, we highlighted the importance for future CSCW researchers and practitioners to engage with local contexts and constructs when designing and evaluating artifacts like XueXi.

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REFERENCES

[1] Tanja Aitamurto and Jorge Saldivar. 2017. Motivating participation in crowdsourced policymaking: The interplay of epistemic and interactive aspects. *Proceedings of the Acm on Human-Computer Interaction* 1, CSCW (2017), 18.

[2] Baidu. 2019. How to create learning groups in XueXi QiangGuo (in Chinese). *Baidu* (20 Jan 2019). Retrieved September 24, 2019 from https://jingyan.baidu.com/article/75ab0bcb784afdd6864db2fd.html

[3] Shaowen Bardzell. 2010. Feminist HCI: taking stock and outlining an agenda for design. In *Proceedings of the SIGCHI conference on human factors in computing systems*. 1301–1310.

[4] H Russell Bernard, Amber Wutich, and Gery W Ryan. 2016. *Analyzing qualitative data: Systematic approaches.* SAGE publications.

[5] François Bougon. 2018. *Inside the Mind of Xi Jinping.* Oxford University Press.

[6] Danah Boyd. 2012. Privacy and Security The Politics of Real Names. *Commun. ACM* 55, 8 (2012), 29–31.

[7] Dan Chen. 2017. "Supervision by Public Opinion" or by Government Officials? Media Criticism and Central-Local Government Relations in China. *Modern China* 43, 6 (2017), 620–645.

[8] Fangwei Chen. 2019. Removing ranking from XueXi QiangGuo has long-term implications (in Chinese). *jxntv* (29 Mar 2019). Retrieved May 19, 2019 from http://opinion.jxntv.cn/2019/0329/9133790.shtml

[9] Jie Chen et al. 2004. *Popular political support in urban China.* Woodrow Wilson Center Press.

[10] Paul A Cohen. 2010. *Discovering history in China: American historical writing on the recent Chinese past.* Columbia University Press.

[11] Rogier Creemers. 2017. Cyber China: Upgrading propaganda, public opinion work and social management for the twenty-first century. *Journal of Contemporary China* 26, 103 (2017), 85–100.

[12] Rogier Creemers. 2018. China's Social Credit System: An Evolving Practice of Control. *Available at SSRN 3175792* (2018).

[13] Sebastian Deterding. 2015. The lens of intrinsic skill atoms: A method for gameful design. *Human–Computer Interaction* 30, 3-4 (2015), 294–335.

[14] Tawanna R Dillahunt and Alex Lu. 2019. DreamGigs: Designing a Tool to Empower Low-resource Job Seekers. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems.* ACM, 578.

[15] Abraham Doris-Down, Husayn Versee, and Eric Gilbert. 2013. Political blend: an application designed to bring people together based on political differences. In *Proceedings of the 6th International Conference on Communities and Technologies.* ACM, 120–130.

[16] Leon Festinger. 1954. A theory of social comparison processes. *Human relations* 7, 2 (1954), 117–140.

[17] Joseph Fewsmith. 2018. Can Fighting Corruption Save the Party. In *The China questions: critical insights into a rising power*, Jennifer Rudolph and Michael Szonyi (Eds.). Harvard University Press, 18–25.

[18] Seth Flaxman, Sharad Goel, and Justin M Rao. 2016. Filter bubbles, echo chambers, and online news consumption. *Public opinion quarterly* 80, S1 (2016), 298–320.

[19] Michel Foucault. 2012. *Discipline and punish: The birth of the prison.* Vintage.

[20] Nina Gerber, Benjamin Reinheimer, and Melanie Volkamer. 2019. Investigating People's Privacy Risk Perception. *Proceedings on Privacy Enhancing Technologies* 2019, 3 (2019), 267–288.

[21] Andre Gonawela, Joyojeet Pal, Udit Thawani, Elmer Van Der Vlugt, Wim Out, Priyank Chandra, et al. 2018. Speaking their mind: Populist style and antagonistic messaging in the tweets of Donald Trump, Narendra Modi, Nigel Farage, and Geert Wilders. *Computer Supported Cooperative Work (CSCW)* 27, 3-6 (2018), 293–326.

[22] Joseph Graf. 2008. New media-The cutting edge of campaign communications. *Campaigns on the cutting edge* (2008), 48–68.

[23] Catherine Grevet, Loren G Terveen, and Eric Gilbert. 2014. Managing political differences in social media. In *Proceedings of the 17th ACM conference on Computer supported cooperative work & social computing.* ACM, 1400–1408.

[24] Peter Hays Gries. 2004. *China's new nationalism: Pride, politics, and diplomacy.* University of California Press.

[25] Peter Hays Gries, Qingmin Zhang, H Michael Crowson, and Huajian Cai. 2011. Patriotism, nationalism and China's US policy: Structures and consequences of Chinese national identity. *The China Quarterly* 205 (2011), 1–17.

[26] Greg Guest, Arwen Bunce, and Laura Johnson. 2006. How many interviews are enough? An experiment with data saturation and variability. *Field methods* 18, 1 (2006), 59–82.

[27] Loni Hagen, Mary Falling, Oleksandr Lisnichenko, AbdelRahim A Elmadany, Pankti Mehta, Muhammad Abdul-Mageed, Justin Costakis, and Thomas E Keller. 2019. Emoji Use in Twitter White Nationalism Communication. In *Conference Companion Publication of the 2019 on Computer Supported Cooperative Work and Social Computing.* 201–205.

[28] Libby Hemphill, Jahna Otterbacher, and Matthew Shapiro. 2013. What's congress doing on twitter?. In *Proceedings of the 2013 conference on Computer supported cooperative work.* ACM, 877–886.

[29] Robert Hoffmann and Jeremy Larner. 2013. The demography of Chinese nationalism: A field-experimental approach. *The China Quarterly* 213 (2013), 189–204.

[30] Geert Hofstede. 1984. *Culture's consequences: International differences in work-related values.* Vol. 5. sage.

[31] Philip CC Huang. 1993. "Public Sphere"/"Civil Society" in China? The Third Realm between State and Society. *Modern China* 19, 2 (1993), 216–240.

[32] Zheping Huang. 2019. China's most popular app is a propaganda tool teaching Xi Jinping Thought. Retrieved March 31, 2019 from https://www.scmp.com/tech/apps-social/article/2186037/chinas-most-popular-app-propaganda-tool-teaching-xi-jinping-thought

[33] Lilly Irani, Janet Vertesi, Paul Dourish, Kavita Philip, and Rebecca E Grinter. 2010. Postcolonial computing: a lens on design and development. In *Proceedings of the SIGCHI conference on human factors in computing systems.* 1311–1320.

[34] Martin Jacques. 2009. *When China rules the world: The end of the western world and the birth of a new global order.* Penguin.

[35] Adam N Joinson. 2008. Looking at, looking up or keeping up with people?: motives and use of facebook. In *Proceedings of the SIGCHI conference on Human Factors in Computing Systems.* ACM, 1027–1036.

[36] Mayur Karnik, Ian Oakley, Jayant Venkatanathan, Tasos Spiliotopoulos, and Valentina Nisi. 2013. Uses & gratifications of a Facebook media sharing group. In *Proceedings of the 2013 conference on Computer Supported Cooperative Work (CSCW).* ACM, 821–826.

[37] Andrea Kavanaugh, John M Carroll, Mary Beth Rosson, Than Than Zin, and Debbie Denise Reese. 2005. Community networks: Where offline communities meet online. *Journal of Computer-Mediated Communication* 10, 4 (2005), JCMC10417.

[38] Michael Keane and Guanhua Su. 2019. When push comes to nudge: a Chinese digital civilisation in-the-making. *Media International Australia* (2019), 1329878X19876362.

[39] Yubo Kou, Bryan Semaan, and Bonnie Nardi. 2017. A Confucian look at Internet censorship in China. In *IFIP Conference on Human-Computer Interaction.* Springer, 377–398.

[40] Robert E Kraut and Paul Resnick. 2012. *Building successful online communities: Evidence-based social design.* Mit Press.

[41] Cliff Lampe, Rick Wash, Alcides Velasquez, and Elif Ozkaya. 2010. Motivations to participate in online communities. In *Proceedings of the SIGCHI conference on Human factors in computing systems.* ACM, 1927–1936.

[42] Pierre F Landry. 2009. Does the Communist Party Help Strengthen China's Legal Reforms? *China Review* (2009), 45–71.

[43] Christopher A Le Dantec, Mariam Asad, Aditi Misra, and Kari E Watkins. 2015. Planning with crowdsourced data: rhetoric and representation in transportation planning. In *Proceedings of the 18th ACM Conference on Computer Supported Cooperative Work & Social Computing.* ACM, 1717–1727.

[44] Ya-Wen Lei. 2018. What should we know about public opinion in China? In *The China questions: critical insights into a rising power*, Jennifer Rudolph and Michael Szonyi (Eds.). Harvard University Press, 43–50.

[45] Pei Li and Cate Cadell. 2019. Alibaba is the force behind hit Chinese Communist Party app: sources. Retrieved March 31, 2019 from https://www.reuters.com/article/us-china-alibaba-government/alibaba-is-the-force-behind-hit-chinese-communist-party-app-sources-idUSKCN1Q70Y7

[46] Fan Liang, Vishnupriya Das, Nadiya Kostyuk, and Muzammil M Hussain. 2018. Constructing a Data-Driven Society: China's Social Credit System as a State Surveillance Infrastructure. *Policy & Internet* 10, 4 (2018), 415–453.

[47] Zhicong Lu, Michelle Annett, Mingming Fan, and Daniel Wigdor. 2019. I feel it is my responsibility to stream: Streaming and Engaging with Intangible Cultural Heritage through Livestreaming. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems.* ACM, 229.

[48] Roderick MacFarquhar. 2018. Does Mao still matter? In *The China questions: critical insights into a rising power*, Jennifer Rudolph and Michael Szonyi (Eds.). Harvard University Press, 26–32.

[49] Jun Mai. 2019. Mao Zedong's 'little red book' gets modern twist with mobile app for studying 'Xi Jinping Thought'. Retrieved March 31, 2019 from https://www.scmp.com/news/china/politics/article/3004007/mao-zedongs-little-red-book-gets-modern-twist-mobile-app

[50] Ben Marder, Emma Slade, David Houghton, and Chris Archer-Brown. 2016. "I like them, but won't 'like'them": An examination of impression management associated with visible political party affiliation on Facebook. *Computers in Human Behavior* 61 (2016), 280–287.

[51] Maxwell E McCombs and Donald L Shaw. 1972. The agenda-setting function of mass media. *Public opinion quarterly* 36, 2 (1972), 176–187.

[52] Matti Nelimarkka. 2019. A Review of Research on Participation in Democratic Decision-Making Presented at SIGCHI Conferences: Toward an Improved Trading Zone Between Political Science and HCI. *Proceedings of the ACM on Human-Computer Interaction* 3, CSCW (2019), 139.

[53] Wanda J Orlikowski. 1993. Learning from notes: Organizational issues in groupware implementation. (1993).

[54] Evan Osnos. 2014. *Age of ambition: Chasing fortune, truth, and faith in the new China.* Macmillan.

[55] Joyojeet Pal and Andre Gonawela. 2016. Political social media in the global South. In *Conference on e-Business, e-Services and e-Society.* Springer, 587–593.

[56] Philip Palmgreen, Lawrence A Wenner, and Jay D Rayburn. 1980. Relations between gratifications sought and obtained: A study of television news. *Communication research* 7, 2 (1980), 161–192.

[57] Namsu Park, Kerk F Kee, and Sebastián Valenzuela. 2009. Being immersed in social networking environment: Facebook groups, uses and gratifications, and social outcomes. *CyberPsychology & Behavior* 12, 6 (2009), 729–733.

[58] Elizabeth Perry. 2018. Is the Chinese communist regime legitimate. In *The China questions: critical insights into a rising power*, Jennifer Rudolph and Michael Szonyi (Eds.). Harvard University Press, 11–17.

[59] Jenny Preece and Diane Maloney-Krichmar. 2003. Online communities: focusing on sociability and usability. *Handbook of human-computer interaction* (2003), 596–620.

[60] Reuter. 2019. China's most popular app pushes Communist Party propaganda. Retrieved April 1, 2019 from https://globalnews.ca/news/5018989/china-most-popular-app-pushes-communist-party-propaganda

[61] Alan M Rubin. 2009. Uses-and-gratifications perspective on media effects. In *Media effects*. Routledge, 181–200.

[62] Michael B Salwen and Michel Dupagne. 2001. Third_person perception of television violence: The role of self_perceived knowledge. *Media Psychology* 3, 3 (2001), 211–236.

[63] Jesper Schlæger and Min Jiang. 2014. Official microblogging and social management by local governments in China. *China Information* 28, 2 (2014), 189–213.

[64] Constantine Sedikides. 1993. Assessment, enhancement, and verification determinants of the self-evaluation process. *Journal of personality and social psychology* 65, 2 (1993), 317.

[65] Irving Seidman. 2006. *Interviewing as qualitative research: A guide for researchers in education and the social sciences*. Teachers college press.

[66] Bryan C Semaan, Scott P Robertson, Sara Douglas, and Misa Maruyama. 2014. Social media supporting political deliberation across multiple public spheres: towards depolarization. In *Proceedings of the 17th ACM conference on Computer supported cooperative work & social computing*. ACM, 1409–1421.

[67] Susan L Shirk. 2007. *China: fragile superpower*. Oxford University Press.

[68] Andrew D Smock, Nicole B Ellison, Cliff Lampe, and Donghee Yvette Wohn. 2011. Facebook as a toolkit: A uses and gratification approach to unbundling feature use. *Computers in Human Behavior* 27, 6 (2011), 2322–2329.

[69] Thomas F Stafford, Marla Royne Stafford, and Lawrence L Schkade. 2004. Determining uses and gratifications for the Internet. *Decision sciences* 35, 2 (2004), 259–288.

[70] Apple App Store. 2019. Xuexi Qianguo. Retrieved April 1, 2019 from https://itunes.apple.com/cn/app/%E5%AD%A6%E4%B9%A0%E5%BC%BA%E5%9B%BD/id1426355645?mt=8

[71] Wenfang Tang and Benjamin Darr. 2012. Chinese nationalism and its political and social origins. *Journal of Contemporary China* 21, 77 (2012), 811–826.

[72] Tencent Technology. 2019. WeChat 2019 annual analytical report: Face-covering has become the most popular emoticon (in Chinese). Retrieved March 11, 2019 from https://mp.weixin.qq.com/s/gi_3xSDWBie-fgg76XXJCg

[73] Patricia M Thornton. 2007. *Disciplining the state: virtue, violence, and state-making in modern China*. Vol. 283. Harvard Univ Council on East Asian.

[74] TikTok. 2020. TikTok 2019 annual analytical report (in Chinese). Retrieved March 11, 2019 from https://mp.weixin.qq.com/s/mjzr2ssMpmDdVeMeiOTb3g

[75] Chad Van De Wiele and Stephanie Tom Tong. 2014. Breaking boundaries: The uses & gratifications of Grindr. In *Proceedings of the 2014 ACM international joint conference on pervasive and ubiquitous computing*. ACM, 619–630.

[76] Rob van Roy, Sebastian Deterding, and Bieke Zaman. 2018. Uses and Gratifications of Initiating Use of Gamified Learning Platforms. In *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems*. ACM, LBW565.

[77] MW Van Someren, YF Barnard, and JAC Sandberg. 1994. *The think aloud method: a practical approach to modelling cognitive*. Citeseer.

[78] Dakuo Wang and Gloria Mark. 2015. Internet censorship in China: Examining user awareness and attitudes. *ACM Transactions on Computer-Human Interaction (TOCHI)* 22, 6 (2015), 1–22.

[79] Yuhua Wang. 2018. Can the Chinese Communist Party learn from Chinese Emperors. In *The China questions: critical insights into a rising power*, Jennifer Rudolph and Michael Szonyi (Eds.). Harvard University Press, 58–66.

[80] Yiran Wang and Gloria Mark. 2013. Trust in online news: Comparing social media and official media use by Chinese citizens. In *Proceedings of the 2013 conference on Computer Supported Cooperative Work (CSCW)*. ACM, 599–610.

[81] Darcy Warkentin, Michael Woodworth, Jeffrey T Hancock, and Nicole Cormier. 2010. Warrants and deception in computer mediated communication. In *Proceedings of the 2010 ACM conference on Computer supported cooperative work*. ACM, 9–12.

[82] David Webster. 1992. *Building free and independent media*. Institute for Contemporary Studies.

[83] Wikipedia. 2019. Chinese People's Political Consultative Conference. Retrieved July 22, 2019 from https://en.wikipedia.org/wiki/Chinese_People%27s_Political_Consultative_Conference

[84] Wikipedia. 2019. Confidence doctrine. Retrieved July 29, 2019 from https://en.wikipedia.org/wiki/Confidence_doctrine

[85] Langdon Winner. 1980. Do artifacts have politics? *Daedalus* (1980), 121–136.

[86] Joanne V Wood. 1989. Theory and research concerning social comparisons of personal attributes. *Psychological bulletin* 106, 2 (1989), 231.

[87] Jinping Xi. 2017. Secure a Decisive Victory in Building a Moderately Prosperous Society in All Respects and Strive for the Great Success of Socialism with Chinese Characteristics for a New Era. Retrieved January 12, 2020 from http://www.xinhuanet.com/english/download/Xi_Jinping's_report_at_19th_CPC_National_Congress.pdf

[88] Qiang Xiao. 2011. The rise of online public opinion and its political impact. *Changing media, changing China* (2011), 202–24.

[89] Shengnan Yang, Pei-Ying Chen, Patrick C Shih, Jeffrey Bardzell, and Shaowen Bardzell. 2017. Cross-strait frenemies: Chinese netizens vpn in to facebook taiwan. *Proceedings of the ACM on Human-Computer Interaction* 1, CSCW (2017), 1–22.

[90] Guangxia Zhao and Xinrui Song. 2019. XueXi QiangGuo started a strategic media complaint on communicating positive energy with Pear Video, collaborating with short video platform for the first time (in Chinese). *People's Daily* (29 Aug 2019). Retrieved October 4, 2019 from http://media.people.com.cn/n1/2019/0829/c14677-31325686.html

[91] Lei Zheng. 2013. Social media in Chinese government: Drivers, challenges and capabilities. *Government Information Quarterly* 30, 4 (2013), 369–376.

[92] Christina Zhou. 2019. China's Communist Party requires millions of people to tune into 'Xi Jinping thought' every day. Retrieved April 1, 2019 from https://www.abc.net.au/news/2019-02-19/millions-of-chinese-required-to-tune-into-xi-jinping-thought/10821092