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The Privacy Concern and Cyber Violence on Epidemiological Investigation of Confirmed Cases: A Social Media Based Study During the COVID -19 Pandemic in China

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ABSTRACT

In China, the government is using social media to control COVID-19 by posting definite privacy cases, including their journeys of the past days or weeks. The exposing of privacy of these confirmed cases usually leads to cyberbullying on the internet. Both the exposure of privacy and cyberbullying can cause negative influences on the individual. This study reports the stigmatization of people due to cyber violence, which resulted from the disclosure of private information during the pandemic. In particular, it is focused on comments regarding information on social internet platforms, and it will utilize the analysis of comments to investigate the stigmatization of people whose privacy has been compromised due to the pandemic. Aside from that, several important instances in China throughout the pandemic to uncover the connections between privacy concerns, online aggression, and societal stigma are also depicted. As a result of the research, it is concluded that online violence caused by the disclosure of personal information during an epidemic can result in some stigmatization of individuals. The outbreak of an epidemic has a significant impact on this process by comparing the disclosure of personal information before and after the epidemic. As a result of social stigma in a real-time setting, this research explores the real-time transformation of social stigma in a particular case. It also offers further suggestions for regulations on the disclosure of personal information to reduce the development of cyber violence in the pandemic.

Keywords: COVID-19 pandemic, privacy, cyber violence.

1. INTRODUCTION

The use of social media by the government as a platform to advertise and achieve collective and social goals is not uncommon. The media systems, digital media-based information dissemination, and politics are coherent entities in modern government administration [1].

However, under certain extreme periods, such as the COVID-19 pandemic in China, the use of social media to control the spread of the virus is regarded harmful to the individual psychologically as that survey action violates the definite cases' privacy. It is always the case that information censorship and governance are condemned to have negative guidance for citizens or the cyber crowd who are social media platform users. Even a polite and goodwill-motivated signal expressed by the government can cause harmful and illegal acts towards the innocent [2, 3]. The situation could be disastrous when concerned with privacy violations.

The Western and Eastern cultural divergences make the privacy issue more easily be neglected in China. According to the Cambridge dictionary, privacy is someone's right to keep personal matters and relationships secret [4]. In this sense, as the officials chose to control the spread of COVID-19 by posting individuals' journeys on public platforms, it is regarded as an act of violating a person's right. However, the eastern definition of privacy does not concern it as a right, but simply something that a person is unwilling to share [5]. Hence, the sharing of a definite case's journey is not a violation of right but a sharing of essential information for the greater good of society. Many pieces of researches are done on the natures and functions of privacy by western scholars, as many debates what privacy truly is [6]. their works will be helpful to reveal the damages on the individuals of the use of privacy during the pandemic in China which is this study's primary concern.

2. TOP ISSUES AND CASES

2.1. National feedback on privacy breach of confirmed cases

On January 30, 2020, Shenzhen was the first city (in Guangdong Province of China) to announce where the confirmed case had stayed. Their addresses were exposed without specific information, such as door numbers were withheld.

After that, many cities followed this method. Office of the Central Cyberspace Affairs Commission announced on March 3 the protocols for investigation for confirmed cases. First of all, If personal information must be collected, relevant institutions need to refer to the Code of Personal Information Security and minimize the scope of privacy being exposed. In principle, the collection is limited to key populations such as confirmed patients, suspected patients, and close contacts. It is generally not targeted at all people in a specific region to prevent the formation of de facto discrimination against people in a specific region. As for the detailed information that might violate individual or patient privacy, disease prevention is emphasized as necessary. So, the Official announced that personal information collected because of epidemic prevention and control, disease prevention and control shall not be used for other purposes. Personal information such as name, age, ID number, telephone number, home address, etc., shall not be disclosed by any entity or individual without the consent of the person whose information is collected. For the occasion of privacy violation, the official announcement also mentions that when releasing personal information during an epidemic, try to avoid involving individuals. After the epidemic is over, personal information should be sealed.

2.2. The posting of definite cases' privacy leads to cyber violence

2.2.1. Case Nanking

Nanking is experiencing rapid growth of definite individuals with Covid-19. China's People Daily revealed the 6 definite individual journeys on Weibo (the Chinese Twitter) on July 31, a day after the confirmed sickness of these 6 individuals.

One of the six is that a flight attendant can be blamed for attending too many places [7].

190号, 空病, 21.2	3号达购物呢? ?	comment 1:			
And in case of the second s			"Case 190, the flight a ttendant, why are yo		
7-31 12:53	68	131	u shopping on the 21 st and 23rd???*		
1001			comment 2:		
病历190 飞外地? 圈个外地? 这流调写了 塘????			"Case 190 flying to an other city? which on e? what is the epide		
3 (20) 2 (20)			miological investigati on saying?		
2-01.12.35	108	10			

Figure 1 Comments show that people doubt the efficiency of disease control administration

A				comment 1	
空乘居然没有隔离 7-31 12:49	Ē	Ð	6	flight	apectedly the attendant was quarantimed*
空乘人员是怎么管控的,			7	confro attenu	are we olling the flight dants? How is me able to get
7-31 13:20	63	8	0	64	out?"

Figure 2 Comments show that people urge for quarantine



Figure 3 Comment shows disappointment

Figure 1-3 Several highly liked comments posted on Weibo from July 31 to August 1 in 2021 in the Chinese social media App Weibo on the topic of the confirmed case in Nanking

2.2.2 Case Chengdu:

"Doxing" is an important conceptualized action in the Chinese Internet ecology, meaning the targeted collection of information about a person, such as his or her real identity, home address, work information, communication methods and relationships. Netizens often initiate such information gathering against a particular person, with the earliest recorded case being a search against Microsoft spokesperson Chen Ziyao in 2001. A male Internet user posted a photo of Chen Ziyao on a social media platform, bragging that this was his girlfriend. Soon after, someone immediately discovered through technical means that the woman in the photo was Chen Ziyao, then "the most beautiful woman at Microsoft," and posted extensive personal information about Chen Ziyao. This incident, known as the "Microsoft Chen Ziyao Incident", set a precedent for the cyberbully in China and was the first real "Doxing" search incident on the Internet in China.

This type of search triggers a particular reaction: public outrage. Although public outrage, in this case, means that when information about an individual is brought to light, internet users turn against him or her as a group. That is to say. Public outrage may be the reason for cyberbullying.

Here is an example: In November 2020, a female student at Tsinghua accused a male student of sexually harassing her in the cafeteria, and the male student was searched for and blamed by public opinion after the female student exposed her personal information to her circle of friends. After the male student retrieved the CCTV the next day to confirm that it was a misunderstanding, the female student commissioned others to "apologize to each other", and the school did not respond adequately, which led to an outcry, with netizens searching for and blaming the female student for her behavior.

In December 2020, a girl in Chengdu had attended several bars before she was diagnosed with Covid-19. The People Daily published her journey of the past 14 days on the 8th of that month [8].

In China nowadays society, cyber violence has become one of the main crimes. In the case of an epidemic, much of the cyber violence is due to people's anger at the unprotected movement of confirmed cases during the epidemic. Since the mainstream media provided only limited information, some of the extreme men illegally using cyber manhunt to expose more privacy to the public, which have a horrible impact on the confirmed cases so that people make unfounded associations between the privacy of their identities and the places they frequent, thus deepening the stigma.

The fact that she was clubbing in different bars lead to cyber name-calling. People online referred to her as a "clubbing slut" and not her privacy, including her ID number and address, were all exposed by the people who clubbed with her. The tag "A 20-year-old woman in Chengdu has been hit by an Internet storm" has 16.789 million reviews and almost 5 thousand comments (Weibo 2020). This case was seen as an internet lynching incidence.

#成群20岁機诊女子被网展# 	#20 year old girl in Chengdu confirmed with Covid-19 being cyber bullyed #	IS 300 restances and a second and a second a sec	
末、延續其他"神场皇后" 株真的一点頭也没有吗 他去面把去政用令人端 家没有代令之 他是他的助心可能去能能使力器 部行了也有可能 并且直接实真理能能了 使果这能 能6号他之还说你出去题?????就正常 (是小 正常?? 嬰光人家身份证价编定进现 你这女的 也保乐和问题	COMMENT 1: "Is it real that she had no fault? i t is true that we should not com ment on her night life but her gr andma when diagnosed on the 6 th and in quarantine, and then t he same day??? Is it normal for her to do? Is it Rich normal?? Ex posing her ID number is not righ t, but she is not perfect as well."		
林芝公士活発程P本,但是我和某人在成朝,第 这样我就是不是(没有對因公和助私的难意) ★4句的的都根就通了也去人類是算父还将几 就 用某是一个个正道的说,能不能少来点和正 次1	e, but I have (11000 likes) e, but I have Chengdu so i melTm not s ure of her ID quarantined e 6th and she up in many p	2: a damn about her lif family members in what she did upsets upporting the expos). Her grandma was at the hospital on th s still chose to show vublic places. Ppl onl top protecting her."	
···· 这个行动机道,单个成数都出来了 2010年2014 记 口 △ mail 小林林着电流少去。	comment 3: "the journey of her covered half of Chengdu" 6867 likes	COMMENT 4: "This girl had been to too many bars"	

Figure 4 Several highly liked comments posted on Weibo from December 12 to August 1 in 2021 from the Chinese social media App Weibo on the topic of the female confirmed case in Chengdu

The start, the development, the dire consequence of this case are so typical that can almost include all the processes in the cyber violence in confirmed cases. It shows the attitude of the Chinese government and people towards collective interests and individual privacy. It also shows the direct harm and subsequent adverse effects to the individual when their privacy is being exposed in public.

Cyber violence on confirmed cases always starts at the mainstream media that can get private information about the confirmed case. The media will put this kind of basic private information out directly, including the name, gender, age, occupation and their journeys of the past days or week of the confirmed cases. For example, in this Cheng du girl case, the basic private information of the girl, which was exposed by mainstream media, had provided the way to other people around the girl to recognize her and to some extreme man to locate her.

When a person is exposed in public, and their information is provided to the public, the malicious speculations and gossips come after, especially when people think they have the right to condemn her - for the virus she might carry for the danger of getting infected. In reality, many people who knew the girl exposed her further information on the internet, even including her phone number and social ID number. The loss of privacy can lead to stigma. And the stigmatization usually causes the stigmatized individual to be devalued, accorded lower status, and targets negative stereotypes, prejudice, and discrimination [6]. People talked about her journal and her lifestyle. Then people on the internet humiliated her, attacked her, and even called her "slut".

According to Kraus, Cyberbullying can lower selfesteem, depressive and anxiety symptoms, and feeling powerless [9]. We can see what happened to the Chengdu girl to understand how these things (lowering self-esteem, depressive and anxiety symptoms feeling powerless) had been produced. The girl has posted a paragraph on the internet to stop the attack on her and her family. Not just about the humiliation on the internet, she also mentioned that because of the exposure of her location and her phone number, many people had threatened her in reality. She kept receiving messages and calls from strange people and could not get back to her normal life. She was facing such psychological stress in her daily life, and people could attack her so easily because they knew who she was due to the exposure of her privacy on the internet.

2.2.3. case Yangzhou

CCTV News was posted on July 30, 2021. that 7 elderly individuals were diagnosed with Covid-19 (CCTV News 2021). One of them was from the city of Nanking, a high-risk area. This person was unaware of her condition and participated in several Mojang activities. People on the internet referred to her as lack of morality and published consideration. Some even think she should be arrested for spreading the virus.



Figure 5 Several highly liked comments posted on Weibo from July 31 to August 1 in 2021 from the Chinese social media App Weibo on the topic of the confirmed case in Yangzhou

9350%	LUNIO IIII	comment 1:
5条防算	×	"pla don't accuse ppl who play board games, the point here is
前托不要集火打除的事了, ●重点 单把何述即属社区局, 社区局委约 单认, 要这个人自己遗愿意识资格 年打除不是但正常吗。	向了两次都不	110 likes the cursoal the fact that she w is comfirmed, the community survey subde her twice and the denset. It is her mund proble m alone, ald people playing Ma mg Jiang is completely normal."
100.00A	0.940	reply 1:
	Pana	* wicked old woman, she is responsible, sh e must go to jail. Fm
这种通信者术、我们要追杀、用利	用。大气了	pissed" reply 2:
101108	⇒ 6π	"the point is not the board ga me houses guys, if the old wo
		man did not come here, Yang
真是天天里自然在一百多県標準定 動東接角、通州廷好好的、人家職 後? 副県建築有什么文泉、標識室 輝的更別場)	建室不还得度	the game houses would not the game houses would not be closed. The game house di d nothing, it was had luck for them and warss luck for the
10(101) 33	10. 4	people who were there?"

Figure 6 Several highly liked comments posted on Weibo from July 31 to August 1 in 2021 from the Chinese social media App Weibo on the topic of the confirmed case in Yangzhou

Overall, these cases indicate that the expose of privacy in the aspect of the journey of the definite individuals tends to result in cyber violence.

2.3. Cyber violence and its effect on individual's psychology

As the cases are shown above, there is no denying that the publishing and posting of definite cases' privacy have a high potential for cyber violence.

This violence includes name-calling, stereotyping a profession and blaming. According to Kraus, Cyberbullying can lower self-esteem, depressive and anxiety symptoms, and feeling powerless [9].

Other research shows that victims of cyberbullying various express emotions such as anger, sadness, frustration, embarrassment, stressed, fright, loneliness and depression [10, 11]. Hay, Meldrum, and Mann found a greater impact of cyber victimization than traditional victimization on internalizing measures such as self-harm and suicidal ideation [12].

The above indicates a direct psychological threats cyber violence appose to the victims of a cyberbully. In this sense, as definite individuals experience cyber



violence, it is very likely that they face psychological stress and have a higher chance of becoming psychologically ill.

2.4. Exposure of privacy and its effect on individual's psychology

2.4.1. Negative

The usage and publishing of privacy can lead to cyber violence and further damage the bullied individual. In this sense, privacy exposure indirectly affects an individual's psychological condition with the intermediary tool of cyber violence.

Moreover, the studies have shown that the exposure of privacy itself can directly negatively impact the exposed individual.

According to Margulis, the loss of privacy can lead to stigma [6]. And the stigmatization usually causes the stigmatized individual to be devalued, accorded lower status, and targets negative stereotypes, prejudice, and discrimination. As a consequence, these stigmatized individuals have a higher chance of experiencing psychological health problems.

Margulis refers to a study of the relationship employee between electronic monitoring of performance and employee reflection. EPM stands for Electronic Performance Monitoring (EPM). EPM is considered to be a kind of surveillance. The usage of computers and electronic devices and closed-circuit cameras to monitor employees are all examples of what is referred to as information technology. When companies attempt to exert social control over their employees, job stress is a possibility. Employee dissatisfaction and increased media attention workers may accept a neutral or positive goal (for example, where the usage of EPM is linked with the objectives of the employees).

Hence it is proved that the exposure of privacy can affect an individual's mental health indirectly and directly.

2.4.2. positive

Many shreds of evidence regarding the damages exposing privacy can be done on individuals, but China still uses this method to control the pandemic. Why is that?

Margulis believes that exposing privacy to a certain degree can enlarge the superego on the individuals [6]. By exposing privacy, people can realize their shame. Consequently, more people can distinguish right from wrong according to the social principles in a society. In the sense of China during the pandemic, not only more people are informed with where to go and not to go, but also lectured to be more cautious in preventing the covid-19.

Moreover, as illustrated in the beginning, the term of privacy does not concern a person's right, not simply the fact that one is unwilling to share with others. In this sense, not only do the officials see the exposure of privacy to control the pandemic, but the majority in China also do not see to revolt this phenomenon.

With the unique interpretation of privacy in China, the officials had chosen to publish personal information to control the spread of Covid-19.

2.5. Questionnaire and future prediction on cyber violence on the definite individuals

2.5.1. Aims of the questionnaire

This study aimed to explore the relationship between personal privacy breaches and social stigma in China during the Covid-9 epidemic. The main concern would be that the Mass-data pathway adopted to monitor individuals in China during the 2019 epidemic so far might have quasi-caused some social stigma.

This questionnaire is aimed at participants who have been residents of China for at least the past year. In addition, there was at least one personal social media account that they actively used (check at least every other day). It covers four main questions, which are listed below.

How do the participants view the use of privacy during the pandemic?

2. To what degree do the participants think the exposure of privacy will affect the definite individuals?

3. To what degree do the participants think the cyber violence will affect definite individuals?

4. Is the chance of the participant involving in future cyber violence against the definite individual high?

2.5.2. results

Due to the language difference between this paper and the participants, we have oriented our questionnaire to Chinese as all participants are Chinese. The results of the questionnaire are then translated into English as this paper is written in English.

There were 79 participants, of which the majority age it 19 to 25 years old, as they take up to 69.62% of the participants. People aged 15-18 and over 30 are 17.72% and 11.39%, respectively. There was only 1 out of 79 from age 25-30 years old.

The first question was a multiple-choice question about the most frequent media the participants use daily. The most frequently used app was communicating app WeChat and QQ (98.73% of the participants). The second most frequent was Weibo (55%), similar to Twitter. Foreign apps like Twitter and Instagram were the third in the rank (35%), with the fourth being Tok-Tok and social applications alike (30%).

The second question is a single answer question asking how the participants interpret the usage of privacy to control the virus during the pandemic. 49 out of 79 (60.76%) participants agreed with the usage of privacy, as they believe it can control the virus efficiently. Sixteen of them were neutral and did not care. Twelve of them disagreed with this type of usage, as they think big data analysis can interrupt individuals' lives.

The third question asks the participants to what extent they think the exposure of confirmed cases' privacy (like their daily journey) would affect these individuals. 27 out of 79 believed the impact of the exposure of the confirmed cases' privacy is big as their lives can be disturbed, and the exposure of privacy can lead to negative outcomes. 55out of 79(69.62%) participants believed there is a good and bad impact. They think people would not remember an individual's privacy for the long term. The time passes, people will forget about it. Five people believed there should be no impact on the individual.

The fourth question asks the participants about the necessity of the exposure of confirmed case's privacy. 67.09% of them (53) believe it is necessary to do so, and the more detailed, the better it can control the pandemic. Twenty-two of them (27.85%) believed it is unnecessary to expose one's privacy. The over-detailed information about one's journey can lead to cyber violence and societal panic. 4 had other beliefs.

The questionnaire also asks to what extent the participants think privacy exposure (daily journey) should lead to cyber violence. Twenty-four of them believe that there should be no cyber violence in the confirmed cases, no matter what. 48 out of 79 were neutral. They believe cyber violence is dependent on the cases themselves. Six of them believed that there would not be cyber violence if the confirmed cases had not done anything wrong. But if there is, it is their fault. One of the participants left a blank.

3. CONCLUSION

The use of privacy can negatively impact definite individuals directly as it increases the possibility of stigmatization and reduces the sense of security on individuals. It can also harm these individuals' psychological conditions via cyber violence indirectly. As the result of the questionnaire indicates, most of the participants are for the exposure of privacy to control the pandemic, as they believe the use of privacy is necessary and a great means. However, the majority also believe the cyber violence that comes after the exposure is the case's responsibility. Hence, we predict that privacy will still go on during the pandemic, and the cyber violence in the confirmed cases is very likely to go on as well.

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