



The Impact of Health Information on Chinese Social Media on Chinese University Students

Jiaying Cai^(✉)

School of Humanities and Social Sciences, Xi'an Jiaotong-Liverpool University,
Suzhou 215123, China

Jiaying.Cai19@student.xjtlu.edu.cn

Abstract. In the digital age, the development of social media has provided a plethora of opportunities for the publication and dissemination of various health information. Chinese college students, as the major users of social media platforms, receive a great deal of health information, intentionally or unintentionally. This health information, whether authoritative and professional or false and inaccurate, can have a certain impact on the mental health and life safety of college students. Since there are few studies on this topic in China, and some of them only concentrate on the influencing factors but lack research on the behaviour of college students after adopting health information, the subject of this paper is the impact of health information on social media platforms on Chinese college students. This paper distributed a questionnaire for data collection and conducted a descriptive analysis to form results. The study found that college students were wary of health messages on social media, and that endorsing health messages could lead to anxiety and cause them to adjust and change their existing health behaviours.

Keywords: Health information · Social media platforms · University students · Anxiety

1 Introduction

With the development of information network technology, social media has already penetrated into all aspects of people's lives. According to Statistical Reports on Internet Development in China, as of December 2021, the number of netizens in China has reached 1.032 billion, the Internet penetration rate has reached 73%, and the average weekly time of Chinese Internet users has reached 28.5 h. It also shows that in China the total time netizens spent online has continued to grow, the use of online devices has diversified, and the scale of Internet application users has maintained steady growth [1]. Compared to new media, the competitiveness of traditional media is declining. This is because social media has several advantages that traditional media cannot achieve or surpass. The first advantage is immediacy, that is, users can receive information published to the public on social media in a short time, and the review of the previous information is also more convenient and accessible. The second one is customized content. For

different audiences, social media will analyze the habits and preferences of users to push content that is more in line with their characteristics to the audience. The third one is sociability and interactivity. Unlike the role of content consumers in traditional media, users on social media platforms are both prosumers and disseminators. Besides, users can communicate with others through the platform and broaden their interpersonal relationships.

There are a number of social media platforms in China, and Weibo, Tik Tok, WeChat and Xiaohongshu are four of the major platforms. Weibo is a broadcast social network platform that shares, disseminates and acquires short and real-time information based on user relationships through the following mechanism. It aims to cover the most comprehensive news and information, reflect the real life of netizens, and share anecdotes about people. Tik Tok is a music-based short video community software for all ages, which was launched at the end of 2016. Its content attribute is far stronger than the social attribute, and users are more willing to watch videos on it instead of using it as a daily social tool. Different from Tik Tok's weak social interaction, the most notable feature and function of WeChat is sociality. WeChat is a free application that provides instant messaging services for smart devices, which also allows people to share streaming content through social plug-ins such as Moment and Voice Notepad. Xiaohongshu is a lifestyle platform and consumer decision portal, which uses machine learning to accurately and efficiently match massive amounts of information and people. In the Xiaohongshu community, users record the positive energy and beautiful life of young people through the sharing of text, pictures, and video notes.

With the development of the social economy and the improvement of people's living standards, people pay more attention to health preservation. Therefore, health columns and health information on various platforms came into being. In response to this trend, individuals, businesses and medical institutions are registering health-related accounts or posting scientific content. The four social media platforms mentioned earlier are also important channels for people to disseminate and obtain health information. However, the common features they share are low barriers to entry and anonymity. This means that while information on social media is affluent, it is of mixed quality, and the hidden identity provides an opportunity for rumour-mongers to take advantage of the situation. Both scientific health information and false messages can have an impact on the recipient of the information.

2 Literature Review

Health information is the information that helps people understand their own health status and make related decisions for themselves or their family and friends based on it [2]. It is related to the state of human existence and contains information on physical and mental health, disease, nutrition, and wellness. This shows that health information covers a wide range of topics. As a source of knowledge, health information plays an irreplaceable role in improving health information literacy, which is considered to be a prerequisite for health behavior change [3].

The Internet replaced traditional media as the primary source of health information in the late 1990s. For teenagers, this is because they have easy access to the medium, have

non-threatening access to information and are able to provide personalized responses [4]. As it grew, the rise of social media changed the way people find, receive, and share that information, both in their daily lives and in emergency situations [5]. This is due to social media's advantages of timely intervention, technology-based, and ease of generating user content [3]. For example, WeChat is one of the most active social media in China, with more than three-quarters of users using it in 2015 and around 60% of users considering it as a channel for health knowledge research and exchange [6]. In WeChat, the public number is a popular embedded medium with the function of offering news and providing services [3]. On one hand, social media platforms have great potential and future in providing health information compared to traditional media. On the other hand, some of the information posted on social media are characterized by inaccuracy and invalidity. Sahni and Sharma claim that the principle of protection and permissible freedom and anonymity of social media makes publishers not responsible for the content posted and propagated, and users even upload unveracious videos on Facebook to gain views and attention. They also point out that health information on social media often lacks references, completeness and formality [7]. Huo, Zhang and Ma cite examples of such misinformation as the fact that milk causes cancer and that genetically modified foods have negative effects on heredity [3]. The inconsistent quality of this information makes the users' perception of health problematic [6].

People's willingness to learn about and search for health information on social media varies depending on a number of factors. The first factor is gender. Most studies indicate that female is more inclined to use the Internet to search for health information and to ask more questions about it than male [8, 9]. However, the opposite situations also exist. One research concluded that in China young men are more likely than young women to engage in health information search and sharing on the Internet [6]. Another two factors are age and educational level. According to Hesse et al., younger and more educated people seek information online the most and tend to earn more than those who seek less [9]. Apart from that, in the 21st century, adolescents rely more on the Internet than adults for information quests, and students who have access to credible health information have more complete health literacy and adequate search skills than those who do not [10]. The last factor is related to the platform. When choosing a platform, people tend to search for information on platforms that have more people with whom they have close relationships [5]. In addition, people often crave social and emotional support on social platforms. Therefore, patients who are obese seek help on social media because they can control the level of disclosure of their condition and identity [11]. Another example is that China's Baidu Tieba helps smokers manage in quitting by providing emotional and advice support [6].

When people receive health information, they judge the information and make decisions to adopt this information or not. Previous studies proposed major elements that can influence people's decisions, and Huo, Zhang and Ma summarized four of them. The first one is perceived source credibility, emphasizing that the source of the information is a vital motivation for people to adopt it. Namely, users perceive the professionalism and reliability of information sources based on their accumulated experience, competence and skills. From the perspective of health information, people may trust the information published by official hospital accounts rather than that posted by health care stores [3].

Regarding the social influence theory, knowledge consensus can be regarded as the basis of knowledge adaptation since people are more prone to accept consensus viewpoints [12, 13]. To speak specifically, information receivers perceive common information on different platforms as more credible. Moreover, more information will be absorbed when the knowledge richness is higher [14]. Compared to boring paper books, digital media releases contain more animations and videos, and these rich formats can leave a deeper impression and understanding on the receiver. Furthermore, health anxiety can cause people to take measures to protect themselves due to an overwhelming fear of illness and threats to their health [15]. This means people may follow health advice in the form of threats that triggers fear. Only when the user adopts the health information does it lead to subsequent decisions and behaviours [16, 17].

Much of the existing research has focused on the factors that influence people's search and adoption of health information, but few studies have focused specifically on people's attitudes and behaviors after adopting information, especially in China. To fill this gap, this paper put forward the research question: how the health information on social media platforms influences Chinese university students.

3 Methodology

Focusing on the impact of health information on social media platforms, the researcher distributed the questionnaire to university students in China. The questionnaire was posted on Weibo and Xiaohongshu, which have a large number of university users, and the data collection lasted for about 12 h. A total of 89 questionnaires were collected, with a valid rate of 100%. According to the completion of the questionnaire, the sample includes 14 male respondents and 75 female respondents.

4 Results

All the statistics were analyzed in a descriptive way. The first two questions of the questionnaire present the basic information of the respondents in terms of gender and grade, which shows that the respondents are predominantly female.

According to the data, almost all participants spent on average more than an hour a day on social media, and mainly maintained a range of 1–7 h. When it comes to the average time spent on browsing health information on social media platforms, 76.4% of participants claimed that they spent less than an hour a day on this kind of contents, with none of the participants spending more than five hours. There are six participants who reported spending 3–5 h in browsing relevant information, and all of them were female.

Respondents use a wide range of social media platforms in their daily life, with WeChat and QQ being the most commonly used. In addition to these two, Weibo, Xiaohongshu, Bilibili and Tik Tok are also some of the more popular social platforms. Compared to these, only about 17% of participants mention that they regularly use Tieba. The results also illustrate that in the past year, the most popular social media platforms for respondents to obtain health information were WeChat and Weibo, followed by Tik Tok, Xiaohongshu, Bilibili and QQ. Apart from these, four of the participants stated that they obtained the information through Baidu and Zhihu as well. People's behaviors in

accessing health information may not be proactive. As the data shows, only a quarter of respondents actively sought health information, while the remaining three quarters of respondents received health messages pushed by social media platforms.

When viewing health information, the vast majority of participants skimmed through the comments posted by other users and more than half claimed that they would scan the full-text message or video in its entirety. Additionally, 41 of them conducted a secondary search for information on other platforms. Only one participant did not perform any of the above actions. After viewing health information, over half of the respondents would feel anxious because of this kind of information while over one-third of them would not. The remaining 12 participants reported feeling anxious when their situation was similar to the one described in the health information. When analysed from a gender perspective, half of the 14 male respondents said they felt anxious while the other half said they did not. Of the female respondents, two-thirds showed a tendency towards anxiety and only 25 were not affected by health information in their mood.

Based on the answers given by the respondents, it can be understood that the reasons for their suspense include two main points. The first one is the suspicion that they have corresponding health problems and the second one is the introspection that their lifestyle habits seem to be unhealthy with health risks. For those who would not feel stressed, they perceive social media as exaggerating information, discover that the phenomena described do not correspond to them, or do not believe such information at all. When anxieties arise, they can to a certain extent influence the respondents' subsequent behaviors. For instance, around 80% of respondents would adapt their current behaviors to alleviate anxiety in accordance with the description of the health information. It is also possible that they would not perform anything for change, or are unable to maintain this change over time. In addition, to avoid deepening anxiety, a minority of respondents might reduce their viewing of such information.

5 Discussion

The present study summarizes three major findings built on the research results. The first one is that Chinese university students do not pay much attention to health information on social media platforms. Although it takes them a great deal of time on social media every day, they spend a relatively low percentage of their time on health information. Besides, because of the good physical condition of university students and information overload in the digital age, most of the health information students receive is pushed to them by social media platforms, rather than by their own active search for information. As young adults, university students with high-level physical condition are less likely to fall ill than adults in other age groups. Therefore, students also have a lower need for health knowledge. The popularity of social media has enabled everyone to post on a variety of platforms, but it also means that people consume a lot of content posted by others alongside their production. Under this circumstance, the messages social media pushed to university students on the basis of users' preferences analysed through algorithms and the big data already satisfies students' demand for health information, which means that they would only actively seek for lacking health information if necessary.

Secondly, self-rated health and trust in information are two critical factors which influence whether health information leads to anxiety in university students. In the questionnaire responses, those participants who did not develop anxiety mostly expressed doubts about the health messages on social media. This is due to the abundance of misinformation on social media platforms, which forces individuals to be sceptical about what they read and to screen it. For example, several respondents indicated that they would do a second search on the information they viewed or read the comments on the information to confirm its reliability. The information can only have an impact on people if they recognize it. Regarding self-rated health, it represents an individual's assessment and judgment of the current health status, not only including the existing health risk, but also the impact of the risk on the later survival conditions. University students with lower self-rated health scores are more likely to believe health information on social media and become anxious by comparing it to their own health status. Moreover, this anxiety is often deepened when they view the similar types of health information multiple times.

Thirdly, health information has a beneficial effect on improving healthy behaviors of university students to some extent. The majority of respondents represented a tendency to change existing health behaviors based on the recommendations and instructions of health information, which they regarded as a method to relieve anxiety. This originates from the trust of students in this type of information and their desire for a healthy state. However, such adjustments and changes are often only short-termed, and students fail to persist. Apart from that, a small number of students may choose to reduce their frequency of viewing relevant information in order to decrease or prevent the occurrence of anxiety. Nevertheless, this behavior has a limited effect on anxiety relief and may lead to health threats due to lack of knowledge in related aspects. Additionally, individuals may not make any changes even when anxiety has arisen. This may be because they have other ways to relieve their anxiety, or they realize that their changes are not be sustainable, so they give up directly.

The increasingly popular social media platforms provide abundant channels for the diffusion and dissemination of health knowledge, which, once adopted, may have an impact on the physical and mental health of users. Though for university students with higher cognitive ability, they are more cautious and double check the authority of the message when learning about health knowledge, people with lower cognitive ability may be misled by disinformation. Therefore, the relevant platforms are supposed to strictly screen and moderate the published information, and filter and delete the inaccurate information in a timely manner. Besides, it is also necessary for the health apartment to increase the dissemination of basic health knowledge and improve the health knowledge of the public. Furthermore, people should receive health information with careful scrutiny of its credibility and take reasonable actions to cope with the resulting anxiety.

6 Conclusion

Through the study, this paper found that Chinese college students in good physical condition have low demand for health information and they maintain a skeptical and cautious attitude when acquiring information. Apart from that, in recognition of the health information, college students with poor self-rated health may experience anxiety due to

comparing their situation with the health contents. This emotion promotes individuals to adjust their lifestyle habits according to health recommendations to relieve anxiety. However, in reality, it is difficult for individuals to stick to these adjusted behaviors. As a result, a number of college students who feel anxious do not take substantial measures to alleviate it or to prevent the anxiety from arising by reducing their contacts with health information. These results extend research on the influence of health messages on social media on university students' attitudes and behaviors in China, which have implications for controlling social media content, raising public health awareness, and caring for college students' mental health status. Nevertheless, the study still has several limitations. Firstly, the population of this study is Chinese college students. Considering the generally high education and cognitive level of college students, it did not explore whether cognitive level affects people's attitude toward health information. In addition, because of the limited sample size and uneven gender distribution, the study did not accurately figure out the differences in impact brought by gender. Therefore, in the future study, the researchers will be needed to expand the age range of the sample, conduct comparative experiments among various countries, and further investigate whether gender is a factor that influences people's attitudes toward health information.

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