

How Information Overload Affects the Usage of WeChat Moment among University Students During the COVID-19

WU Zhiyan^{1,a,*}

¹*Faculty of Humanities and Social Sciences, Beijing Normal University-Hongkong Baptist University United International College (UIC), Jintong Road, Tangjiawan Town, China*

a. id_0116966@qq.com

**corresponding author*

Abstract: This study navigates the effect of information overload on university students' usage of WeChat Moment during the COVID-19 pandemic. WeChat has become a prominent platform with a large number of monthly active users since people are increasingly relying on social media for socializing and accessing health-related information. However, users have reported experiencing social media fatigue (SMF) due to the overwhelming amount of COVID-19 information on the platform. This study aims to explore the relationship between information overload, social media fatigue, and discontinuous usage intention among young WeChat users. A survey was conducted with 324 Chinese university students. The results revealed that a significant portion of respondents experienced information overload while using WeChat, which was positively correlated with social media fatigue and discontinuous usage intention. Notably, living or isolating in areas at middle or high risk from the pandemic did not contribute to a greater perception of information overload. This study provides valuable insights for improving WeChat Moment and enhancing the well-being of young users in the context of information overload during the pandemic.

Keywords: information overload, social media fatigue, WeChat moment, COVID-19, discontinuous usage intention

1. Introduction

1.1. Background Information

During the ongoing COVID-19 pandemic, due to the requirement of social distancing and lockdowns worldwide, people have increasingly relied on social media, not only for socializing but also access to health-related information. By the end of 2022, WeChat was reported to take the lead among Chinese messaging applications with over 13 hundred million monthly active users in China. As it features the WeChat Moment that allows active interactions like daily postings and information sharing in a comparatively private sphere, checking and updating it has become an important daily routine.

However, recently WeChat users have expressed negative feelings, referred to as social media fatigue, due to finding it boring and exhausting. Being overwhelmed by loads of information on the platform is one of the reasons contributing to this fatigue [1]. Younger generations are experiencing

increasingly severe fatigue, leading to enhanced disengagement desire and discontinuous use in the later phases amid the pandemic.

On one hand, WeChat has currently been considered one of the most influential sources of information especially those related to COVID-19 [2]. On the other hand, in addition to the latest healthcare news and information access, WeChat users are always forced to check WeChat Moment for important communication during their work and study. Therefore, since WeChat Moment takes the major role in information flow in friend circles, along with negative expressions initiated occasionally, social media fatigue among WeChat users is predicted to grow, leading to continuous declining use of WeChat Moment or even quitting the WeChat Moment.

In addition, it has been proved that undergoing such information overload and the pressure of compulsive use would cause unhealthy mental problems such as anxiety, fear, and depression. Even though some functions of WeChat Moment could block or filter some disrupting interactions within the WeChat Moment like “not showing ‘likes’ of my friends’ moments” and “Only 3 days of Moments are visible”, the effectiveness of weakening SMF is still limited.

1.2. Problem Identification

Therefore, this study aims to figure out whether young WeChat users (university students as respondents) are facing information overload from using WeChat Moment according to the survey. Another objective is to identify the linkage between the perceived information overload and fatigue of WeChat Moment usage. By adding a rarely explored perspective, the research finding is expected to provide insights for WeChat Moment’s improvement and healthcare-related institutions.

2. Literature Review

2.1. Information Overload

Information overload is also called “information overabundance”, or “information pollution”. The phrase was attributed to the American social scientist Bertram Gross, who used it to refer to the state when the information input to any system exceeds its information processing capabilities. Information overload is usually a state in which individuals are unable to process relevant and useful information effectively at work, and this information must have some degree of value and be accessible [3]. Klapp argued that it is a deterioration of information that occurred when information became irrelevant, interfering with the original information, or was excessive, old, and not of any interest, and so on [4]. Marien from a personal perspective showed that information overload was the result of people trying to keep up with the pace of information but finding that they were falling further and further behind [5]. After 2019, there was a new situation regarding information during the outbreak of the epidemic. In this paper, information overload refers to the phenomenon that information exceeds an individual’s ability to receive and process it, resulting in psychological anxiety and defines “information” as epidemic-related information, such as epidemic prevention policies, grievances in epidemic and so on [6].

2.1.1. Impacts of Information Overload

The greatest impact of information overload on individuals is the increasing stress and the accompanying psychological, physical, and social problems [7]. Information anxiety occurs when people do not understand information, when they feel overwhelmed by the amount of information they have to understand, when they do not know whether a certain kind of information exists, where to find it, or when they know where to find it but cannot access it. Shenk also noted that information overload may trigger symptoms such as elevated cardiovascular stress, diminished visual acuity,

confusion, frustration, diminished judgment, and excessive ego [8]. Arguably, information overload harmed personal life and relationships. Information overload could not improve life quality, it would result in a confused and ignorant situation where a sense of alienation among the constituent members of society was created [9].

2.2. Social Media Fatigue

2.2.1. Definitions and Manifestations of Social Media Fatigue

In the academic world, there are various definitions of social media fatigue. Adam Patrick first proposed the concept of SMF in 2004, showing that people were overwhelmed by an endless stream of social media [10]. SMF was also considered as a psychological concept, which referred to the audience's negative feelings about social media activities, such as frustration, boredom, disinterest, apathy, etc. [11]. Bright et al. also claimed that audiences tended to escape from social media when they were exposed to excessive information [12].

Based on the existing definitions, this research tends to use Ravindran's concept to interpret social media fatigue, which is "a subjective, multidimensional user experience comprising feelings such as tiredness, annoyance, anger, disappointment, guardedness, loss of interest, or reduced need/motivation associated with various aspects of social network use and interactions" [13]. Also, this negative mental state is marked by a series of social media use and interaction behaviors. However, users' feeling of fatigue does not mean they will stop using social media. SMF leads to different behaviors as well. One is extreme forms such as discontinuing use and withdrawing from social media for a long time. The other is gentler behavior modification, such as reducing the frequency of use, ignoring some information, intentional behavior control, tolerating use, or changing platforms.

2.2.2. Reasons for Social Media Fatigue

The reasons for SMF could fall into two broad categories, which are environmental factors and individual factors. The environmental factors mainly refer to some available features of social media that are easy to cause user social media fatigue, such as system overload, information overload, service overload, and social overload. Individual-level factors include privacy concerns, missing anxiety, self-immersion out of control, perceived cost, and social comparison. In terms of information overload, with the development of technology, the imbalance between the amount of information produced by social media and user demand leads to information overload, such as massive, homogenized information that affects users' psychology [14]. Empirical research also confirmed that information overload affects social network fatigue, then affects dissatisfaction, and finally affects the non-continuous use intention of instant messaging users [15].

Through the literature review, we can find that the relationship between information overload and social media fatigue has been depicted. Most of the previous literature studied SMF before the pandemic. However, as people's lives changed these three years, the frequency and time spent on social media increased, and the messages that influenced social media burnout changed accordingly. Therefore, in the context of the epidemic, this paper will take WeChat Moments as the use scenario to further study the dynamic relationship between information overload and SMF.

3. Methodology

3.1. Research Method

This research adopted an online survey sampling research method through Wenjuanxing and engaged 359 college students in total in the survey. All questions in the questionnaires were gauged on a 5-point Likert rating scale (1 = strongly disagree and 5 = strongly agree). Finally, a total of 36 invalid questionnaires were removed due to short answering time and thus the final sample consisted of 324 university students from different areas and colleges mainly in China including Beijing Normal University·Hongkong Baptist University United International College (UIC), Chinese University of Hong Kong, Xi'an Jiaotong-Liverpool University, Ocean University of China, Guangdong University of Foreign Studies and Dongguan University of Technology.

The survey was designed to gather data on the research variables and consisted of multiple sections and a total of several questions. It was divided into three main parts: information overload, social media fatigue (SMF), and discontinuous usage intention. Each of them measured different aspects of the respondents' experiences with WeChat Moment during COVID-19. The information overload section assessed the participants' perceived overwhelm by the amount of information they encountered on the platform. The SMF section captured their negative feelings and disinterest towards social media activities, specifically related to the WeChat Moment. Finally, the discontinuous usage intention section gauged their intention to reduce or stop using the platform.

3.2. Key Variables and Measurement

A representative item of Information overload is "I find that I am overwhelmed by the amount of information I have to process daily on WeChat Moment." Respondents were asked to rank how they felt during the past two months. The degree of SMF was assessed by six statements adapted from previous studies including various signs of fatigue like "feel bored" and "show no more interest". Four statements were used to measure the intensity of their discontinuous usage intention. Sample items include "If I could, I would reduce the use of WeChat Moment".

3.3. Research Objectives and Research Questions

The research aimed to figure out the relationship between college students' information overload, SMF, and their discontinuous usage intention of WeChat Moment amid COVID-19. For this purpose, we proposed two research questions as follows:

RQ1: Do people who have lived or been isolated in areas at middle or high risk from the pandemic outbreak have greater perceived information overload, SMF, or discontinuous usage intention?

RQ2: What is the relationship between college students' information overload, SMF, and their increased discontinuous usage intention?

4. Result

Table 1: Demographic characteristics.

	%	<i>M (SD)</i>	<i>n</i>
Demographics			
Gender			

Table 1: (continued).

male	27	88
female	73	236
Middle/high risk		
Yes	30.6	99
no	69.4	225
Time spent on WeChat (h)		
0-3	33.1	107
3-6	42.2	137
6-8	15.7	51
More than 8	9.0	29
Key variables		
Information overload [a = 0.81]		3.48(0.87)
Social media fatigue [a = 0.88]		3.35(0.88)
Discontinuous usage intention [a = 0.80]		2.97(0.93)

The descriptive analysis (see Table 1) revealed that, of the sample, nearly one-third (30.6%) reported that they have lived or been isolated in areas at middle or high risk from the pandemic outbreak. Additionally, in terms of time spent on WeChat, most respondents (75.3%) spent less than six hours per day while only a few (9.0%) used for over eight hours per day.

The mean of key variables (in terms of information overload, social media fatigue, and discontinuous usage intention) are all slightly above the mid-point. This indicates that information overload is a prevalent issue, causing some degree of overwhelm among the participants. Similarly, social media fatigue is evident, with participants expressing negative feelings and reduced interest in using WeChat Moment.

Table 2: Group difference in perceived information overload.

	yes (n =99)	no (n =225)	Significance of Difference
Information overload	3.48	3.48	<i>non-significant</i>
Social media fatigue	3.41	3.32	<i>non-significant</i>
Discontinuous usage intention	2.98	2.96	<i>non-significant</i>

To explore RQ1 on group differences in terms of middle or high-risk areas living or isolating history from the pandemic outbreak, t-test values were calculated for perceived information overload. As can be seen in Table 2, no significant difference between the two groups was indicated regarding

their perceived information overload.

Table 3: Correlations between information overload, social media fatigue, and discontinuous usage intention.

	Information overload	Social media fatigue	Discontinuous usage intention
Information overload	—	—	—
Social media fatigue	.640**	—	—
Discontinuous usage intention	.529**	.691**	—

To explore RQ2, a correlation analysis was conducted and displayed in Table 3. The result (see Table 3) suggested that participants' perceived information overload is positively correlated with SMF ($r = 0.675$, $p < 0.01$). The result implied that the more serious overload that individuals were under, the greater SMF they felt. Likewise, respondents who reported greater SMF also tended to have a stronger intention to stop using WeChat Moment constantly in the future ($r = 0.691$, $p < 0.01$). Additionally, perceived information overload and discontinuous using intention showed a moderate positive correlation ($r = 0.529$, $p < 0.01$).

In short, consistent with the result of previous literature, information overload, and SMF were very likely to be reasons for users to express less willingness to check their moments. Furthermore, given the fact that living or being isolated in places under the pandemic restriction was not a contributing factor to individuals' perceived overload, it might as well not further lead to greater fatigue or obvious fall of using intention.

5. Conclusion

5.1. Reflection

Based on numerous studies on SMF, overload was always not a single dimension taken into consideration. However, the information and news related to COVID-19 were too important to ignore and therefore it was hard to escape processing large amounts of information. Meanwhile, since WeChat Moment was regarded as a major source of information related to social networks and study, checking moments become a stressful and impulsive routine. Under this circumstance, it was no wonder that users began to express exhaustion and anxiety, seen as indicators of SMF. Many users tried to consider not checking it as much as currently to reduce the negativity and thus showed discontinuous usage intention. Unexpectedly, participants who were influenced by the outbreak in terms of pandemic restriction were thought to undergo more COVID-19 information flooding, but it didn't turn out that way.

5.2. Practical Implications

Firstly, service providers and managers need to be aware that information overload can lead to SMF and discontinuous usage intention in the WeChat Moment setting. In that case, they can control the source and manage the quality and quantity of excessive information by optimizing certain functional characteristics of the moment system. Second, for future studies around dimensions of SMF, since the above findings implied that COVID-19 information was not the main cause of fatigue, deeper analysis on what other kinds of information was exactly the burden is required. Since prior studies

have proved that SMF harms the psychological well-being of and poses emotional stress to young users, the analysis will contribute to clearer system-improving strategies and provide suggestions for users on alleviating mental risk from WeChat Moment as well as other social media platforms.

References

- [1] Pang, H. (2021). *How Compulsive WeChat Use and Information Overload Affect Social Media Fatigue and Well-Being During the COVID-19 Pandemic? A Stressor-Strain-Outcome Perspective*. *Telematics and Informatics*, 64, 101690.
- [2] Ngien, A., & Jiang, S. (2022). *The Effect of Social Media on Stress among Young Adults During COVID-19 Pandemic: Taking Into Account Fatalism and Social Media Exhaustion*. *Health Communication*, 37(10), 1337-1344.
- [3] Bawden, D., Holtham, C., & Courtney, N. (1999). *Perspectives on Information Overload*. *Aslib Proceedings*, 51(8), 249-255.
- [4] Klapp, O. E. (1986). *Overload and Boredom: Essays on the Quality of Life in the Information Society*. Greenwood Publishing Group Inc.. Retrieved from <https://dl.acm.org/doi/abs/10.5555/536373>
- [5] Case, D. O., Andrews, J. E., Johnson, J. D., & Allard, S. L. (2005). *Avoiding versus Seeking: The Relationship of Information Seeking to Avoidance, Blunting, Coping, Dissonance, and Related Concepts*. *Journal of the Medical Library Association*, 93(3), 353.
- [6] Schick, A. G., Gordon, L. A., & Haka, S. (1990). *Information overload: A Temporal Approach*. *Accounting, Organizations and Society*, 15(3), 199-220.
- [7] Heylighen, F. (2002). *Complexity and Information Overload in Society: Why Increasing Efficiency Leads to Decreasing Control*. *The Information Society*, 1(44), 11.
- [8] Shenk, D. (1997). *Data Smog: Surviving the Info Glut*. *Technology Review*, 100(4), 18-26.
- [9] Gao, W., Liu, Z., Guo, Q., & Li, X. (2018). *The Dark Side of Ubiquitous Connectivity in Smartphone-Based SNS: An Integrated Model From Information Perspective*. *Computers in Human Behavior*, 84, 185-193.
- [10] Liu, Y., & He, J. (2021). *"Why Are You Running Away From Social Media?" Analysis of the Factors Influencing Social Media Fatigue: An Empirical Data Study Based on Chinese Youth*. *Frontiers in Psychology*, 12, 674641.
- [11] Ling Z., Lu Y., Yang J., Zhang S. (2015). *Get Tired of Socializing as Social Animal? An Empirical Explanation on Discontinuous Usage Behavior in Social Network Services*. Retrieved from <https://aisel.aisnet.org/pacis2015/125/>
- [12] Bright L. F., Kleiser S. B., Grau S. L. (2015). *Too much Facebook? An Exploratory Examination of Social Media Fatigue*. *Comput. Human Behav*, 44, 148–155.
- [13] Ravindran, T., Yeow Kuan, A. C., & Hoe Lian, D. G. (2014). *Antecedents and Effects of Social Network Fatigue*. *Journal of the Association for Information Science and Technology*, 65(11), 2306-2320.
- [14] Li, X. (2018). *Research on Social Media Users' Burnout and Negative Use Behavior in the Context of Information Overload*. Shandong University of Finance and Economics. Retrieved from <https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD201902&filename=1018208506.nh>
- [15] Zhang, S. W. (2016). *An Empirical Study on Discontinuous Use Behavior of Social Network Users*. Wuhan: Huazhong University of Science and Technology. Retrieved from <https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD201702&filename=1016780103.nh>