

Culture Shock of the Covid-19 on TikTok: User's Taste Shift for Video Content in China

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Abstract: The Covid-19 pandemic has had a global impact and served as an economic and cultural shock. In 2022, Shanghai was in an entire lockdown for two months due to quarantine policies adopted by China to prevent the pandemic from spreading. During this period, social media became a crucial part of people's lives, used for communication, entertainment, and receiving news. This article investigates the post-pandemic effect of Covid-19 on social media by conducting a study using customized surveys to examine users' preference shift of video content on TikTok, China's most popular short-video social platform. The study found a correlation between TikTok users' preference shift for short video content and the Covid-19 pandemic in China. The participants were divided into social groups based on age, gender, and occupation, but the study did not find any significant differences in their responses to this correlation. There were high shifts in taste for video content related to the Covid-19 pandemic, such as health news and indoor exercise. The study shows that shifts in the purpose of using social media are significant when experiencing a cultural shock. Users often respond to cultural shock by switching to certain types of video content. Future scholars studying media psychology and exploring the elements that shift consumers' gratification and purposes of using social media can benefit from this article.

Keywords: culture shock, social media, Covid-19, preference media content, TikTok

1. Introduction

Social media has been growing its influential power since early 2002 [1]. Myspace was the first social media site that reached a million monthly users in 2004. In the same year, Facebook was introduced and has been steadily growing since 2005, reaching 2 billion users in 2019, becoming the most popular social platform worldwide [1]. China caught the late train on social media development yet became the most prominent social media market. WeChat, an instant message platform introduced in China in 2011, reached a billion users in 2018. TikTok, a short video platform, demonstrates a more rapid growth, reaching 500 million users worldwide within two years after its introduction in 2016 [1]. In 2022, TikTok users reached 780 million in China [2]. Moreover, adults use approximately 6 hours on social media every day and have multiple social media platforms [3]. Thus, as the most popular short-video social media, TikTok has diverse consumer groups. In 2021, 14% of TikTok users received mainstream news through the platform, 14% received alternative new sources, 36% received posts from personalities (celebrities and influencers), and 23% browsed posts from ordinary

people(all-market) [4]. For such a diversity of consumers, combining social media and broad utilization of big data creates a field of study called social media mining [5]. Social media mining is a process of reporting, analyzing, and extracting useful information from social media data [6]. Popular media platforms like TikTok collect the users' action information to promote contents that suit a particular user's preference. However, the user's preference can be ambiguous due to receiving external information and developing an interest in new information. Studying the correlation between external factors and the internal psychology of the users enhances the psychological reasoning in the gratification of using social media [7].

So, questions are raised. What shifts the user's preference for media content? What are the factors that change the users' interests? The answers to these questions can vary depending on the viewpoint. A study between culture shock and self-identification acculturation measured by social media use has proven self-identification responses to culture acculturation positive [8]. Thus, applying irresistible forces such as cultural shock can produce a more visible and direct result of the pandemic's influence on media content tastes.

The Covid-19 pandemic is chosen to serve as the cultural shock influencer. China started its pandemic lockdown policy on December 31, 2019, when Wuhan firstly outbreaks and officially announced the lockdown [9]. After the quick spread of the virus, many cities began quarantines. This arrangement is intermittent and lasts until 2022. In April and May 2022, an estimated 25 million people in Shanghai have been circumscribed in their homes [10]. Although many studies have been conducted on the influence of Covid-19 on societies, primarily the economy, a few studies attend to its social influence. How Covid-19 will affect users' tastes and change their gratification from social media remains unknown. This study is the first research investigating the relationship between the pandemic and tastes shift in TikTok users and what category of media content is affected. Further studies based on this research may further explore the psychological reasons for social media users and how consumers are subject to environmental change.

2. Method

2.1. Samples

As the most popular video-content media, TikTok has estimated 72 % of participants who anticipated in a previous poll were users [11]. This result makes the study practical to compose questionnaires to investigate by applying convenience sampling to the data collection.

From Feb 20- Mar 3, 2023, the self-composed questionnaires through an online survey website to friends and relatives of the author. They were asked to forward the survey to further social networks. The participants are selected across different age groups (Ages 15-60), different gender groups (male, female, non-binary), and occupation status (student, employee). A total of 190 responses were collected, and 155 were valid.

2.2. Question and Survey Method Design

The survey questions were composed, distributed, and collected through the online survey website, Sojump. Sojump is a widely used online survey tool that can be easily transferred into WeChat, allowing the design and distribution of the survey and response collection. The format of the questionnaires follows the pattern of Likert questions. One example from the survey: "Under the pandemic influence, you paid more attention to healthy new content on TikTok." Each question has a score from 1 to 7 and corresponds to answers from "Strongly Disagree" to "Strongly Agree." A higher score indicates a higher taste shift under the influence of the pandemic. Questions are designed to fulfill the Use and Gratification Theory of media psychology. Questionnaires include receiving information, pursuing personal identity, social interaction, and entertainment. Social interaction is not

considered due to the irrelevance of the topic. The last three questions in the survey produce the participants' demographic data (age, gender, and occupation). The survey was monitored by the IP address, response time, and pattern of the answers.

2.3. Statistical Analysis

The response data were adjusted, and invalid data were carefully removed based on the demonstration of a similar pattern of the answers to consecutive questions and the time the participants spent on the survey. 35 responses were removed, leaving 155 valid responses. The tools for data analysis are Excel and SPSS 27.0.1. Descriptive data was conducted in SPSS. A Paired-Sample T-test and Chi-Square test were exploited in SPSS to study the impact of the pandemic on taste shift in TikTok users. Dummy variables are produced for comparison, representing the answer "I don't know/ Natural," this variable has a numeric value of 4 for all survey questions, assuming that users' tastes did not shift without the pandemic.

3. Result

3.1. Descriptive Analysis

The 155 valid respondents are from China across the country, and the majority are from Beijing. Gender ranges from Male, Female, and Non-binary. The majority is female. Non-binary is removed for the following statistical analysis due to the small sample size. Age group variables from 15 to >60. The majority is the teenage group aged from 15-28. The age group >60 is removed for the statistical analysis due to the small sample size. Occupation has an equal distribution of social status of employees and students. The detailed data are shown in Table 1.

Table 1: Descriptive data on demographic information of the participants.

	Category	Frequency
Gender	Male	61
	Female	91
	Non-binary	3
Age	15-28	90
	29-48	45
	49-60	18
	>60	2
Occupation	Employee	78
	Student	77
Total		156

3.1.1. Relationship Between Tastes Shift for TikTok Videos and Pandemic

The independent variable is sum_taste, and the dependent variable is dummy*sum. The null hypothesis is "There is no short video taste shift for TikTok users in China since the pandemic." The alternative hypothesis is, "There is a short video taste shift for TikTok users in China since the pandemic." The distribution and variance of the overall shift in taste scores for short videos need to be examined to run a paired T-test. A descriptive statistical analysis of the sum_taste (the overall shifting scores for videos) based on the sample of 155 participants and 7 points scale. The dummy variable has a numeric value of 4 for 14 Likert questions, which assumes that users' tastes did not shift without the pandemic. The details are shown in Table 2 & 3.

Table 2: Paired sample statistics.

	Mean	N	Std.deviation	Std.Error mean
Sum_taste_scores	65.45	155	12.10	0.97
Dummy_sum	56.00	155	.00	.00

Table 3: Paired samples test.

	Mean	Std. Deviation	Std .Error Mean	95% confidence ...Lower	95% confidence ... Upper	t	df	Sig.(2- tailed)
Sum_tastes_ scores - Dummy*sum	9.45	12.10	0.97	7.53	11.37	9.72	154	0.00

3.1.2.Social Group in the Tastes Shift with the Pandemic

To further discuss the question, every participant reported their age, gender, and occupation. The age groups vary from 15-28 to >60 into four age groups. The gender contains male, female, or non-binary. Occupations indicate their social status, student, or employee. To answer which group of these identities is affected by the pandemic and which group is not affected, a dummy variable, “Influence,” is created. If the sum tastes scores surpass the dummy*sum, return the string “Affected”; otherwise, return the string “Unaffected.” The Chi-Square test is exploited for this part. The results are in Table 4 & 5.

Table 4: Descriptive data on demographic information of the participants.

Category	Affect	Unaffected	Total
Age			
15-28	62	28	90
29-48	37	8	45
49-60	15	3	18
Gender			
Female	68	23	91
Male	46	15	61
Occupation			
Employee	65	13	78
Student	51	26	77
	Affect	Unaffected	
	116	39	155

Table 5: Chi-square tests.

Category	Value	df	Asymptotic Significance(2-sided)
Pearson Chi-square- Age*influence	4.36 ^a	3	0.23
Pearson Chi-square- Gender*influence	0.12 ^b	2	0.94
Pearson Chi-square- Occupation*influence	6.02 ^c	1	0.01

a. 3 cells (37.5%) have expected to count less than 5. The minimum expected count is .50.

b. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .75.

c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 19.37.

3.1.3. Tik Tok Contents Users Shift Into

According to the use and gratification theory, gratification from media content generally falls into four categories: receiving information, pursuing personal identity, social interaction, and entertainment [7]. To better understand what type of media content is mostly affected by taste shift, the results from each survey question that regards their preference shift are categorized into the four groups from the use and gratification theory.

Health news, shopping, online learning, indoor exercise, and trials/courts fall into Information content. Create own video, and physical/mental health fall into Personal Identity. Outdoor travel, cooking, music, gaming, comedies, and dancing compilation fall into entertainment. Each type of media content has a dummy variable to use for comparison. Paired-sample T-test is exploited to answer the question. The results are in Table 6 & 7.

Table 6: Paired samples statistics.

Category	Mean	N	Std.Deviation	Std.Error Mean
Information	23.76	155	5.24	0.42
Dummy*info	20.00	155	.00	.00
Personal_ identity	8.92	155	2.73	0.22
Dummy*identity	10.00	155	.00	.00
Entertainment	27.96	155	5.52	0.44
Dummy*entertainment	24.00	155	.00	.00

Table 7: Paired samples T-test.

Category	Mean	Std.deviation	Std.Error mean	95% Confidence... Lower	95% Confidence... Upper	t	df	Sig.(2-tailed)
Information*Dummy*_info	3.76	5.24	0.42	2.93	4.59	8.94	154	0.00
Personal_identity*Dummy*_identity	-1.08	2.73	0.22	-1.52	-0.65	-4.95	154	0.00

Table 7: (continued).

Entertainment*Dummy*_Entertainment	3.96	5.52	0.44	3.09	4.84	8.93	154	.00
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3.2. SPSS Statistical Analysis

Paired sample T-test was performed on the influence of the Covid-19 pandemic on TikTok users' preference shift. $T(154) = 9.72$, $P < 0.001$, $CI: 7.53 - 11.37$. Cohen's $D = 12.10$, Hedges' correction = 12.13. This result concludes that there has been a short video taste shift for TikTok users in China since the pandemic.

Following is which demographic social group is most affected by the pandemic regarding their video taste. A Chi-Square test was performed to estimate the relation.

In age, Age 15-28($n=90$), Age 29-48($n=45$), Age 49-60($n=18$), Age >60($n=2$). The Chi-square age*influence shows 68.89% of the age group 15-28's tastes are affected by the pandemic, 82.22% of the age group 29-48's tastes are affected, 83.33% of the age group 49-60 is affected, 100% of the age group >60 is affected. Pearson Chi-square = 4.36 indicates there are differences between each age group. Due to the difference in each age group's sample size, there is no strong evidence proving which group demonstrates stronger impacts on tastes from the pandemic. However, the impact of the pandemic tends to be greater following an increase in age.

In gender, Female($n=91$), Male($n=61$), non-binary($n=3$). The Chi-square gender*influence shows that the pandemic influences 74.73% of the Females' Tastes for videos and 75.41% of the Males' tastes. Non-binary is not considered in this due to the small sample size. Pearson Chi-square = 0.11. Thus, no clear evidence proves that the pandemic impacts the different gender groups differently.

In occupation, Student($n=77$), Employee($n=78$). The Chi-square student*influence shows that 83.33% of the employees' tastes for videos are affected by the pandemic, and 70.13% of the student's tastes are affected by the pandemic. Pearson Chi-square = 6.02 indicates evidence proving the pandemic impacts the employees more than students for their tastes about videos on TikTok, corresponding to the result from age*influence.

Tastes for Informational media content are significantly affected by the pandemic and have positive relationships for $T(154) = 8.94$, $P < 0.001$, $CI: 2.93 - 4.59$. Cohen's $D = 5.24$, Hedges' correction = 5.25. This result indicates that the result is significant and has a large effect size.

Tastes for Personal identity media content are significantly affected by the pandemic but have a negative relationship. T-test, $T(154) = -4.95$, $P < 0.001$, $CI: -1.52 - -0.62$. Cohen's $D = 2.73$, Hedges' correction = 2.73. This result indicates that the result is significant and has a large effect size, leading media contents are Physical mental health($T=10.11$), create your own video($T=-2.48$) under this category of media content. Since these two media contents demonstrate significant reverse relationships with each other under the same category, there is no effect between shifts in tastes of personal identity videos and pandemic influences.

Tastes for Entertainment media content are significantly affected by the pandemic and have generally positive relationships for $T(154) = 8.93$, $P < 0.001$, $CI: 3.09 - 4.84$. Cohen's $D = 5.52$, Hedges' correction = 5.54. This result indicates that the result is significant and has a large effect size.

4. Discussion

4.1. TikTok's Role as Informer

A previous study shows that 28% of TikTok users exploit the platform to receive mainstream and alternative news [4]. However, this study has demonstrated that 80% of the participants shift into the health news category of media content due to the Covid-19 pandemic. Since the pandemic, a high volume of users has started to pay more attention to health news on TikTok. This result is not surprising given the severity of the Covid-19. Another study indicates similar results. In March 2020, 57% of US adults followed Covid-related news “very closely” and 35% “fairly closely.” Compared to the previous fortnights, the percentage of people who followed the news about Covid-19 increased by 32 percent [12].

Unlike mainstream news on television or in newspapers, TikTok adapts to the coexistence of entertainment content and mainstream news. Before TikTok, there was a popular platform called Sina Weibo, a personal blog that expanded social networks and explored others' blogs. In 2011, Sina Weibo had 58.6 million users and 265.5 million following relations [13]. Sina Weibo had considerable media exposure to the public, and many organizations joined and created their blog. These organizations are governmental, commercial, and media. To distinguish these organizations from ordinary users, Weibo gives them a verified mark called “official account.” TikTok adapts Sina's approach. TikTok gives these mainstream media like China central television, Xinhua News, and People's Daily official recognition, and these media can broadcast news to the public through TikTok. A study argues that TikTok became more mainstream during the pandemic lockdown that followed Covid-19 outbreak [14].

However, TikTok is widely recognized as a combination of personal entertainment and traditional mainstream media. Some may be concerned about the politicization of this platform. Yet, for the general Chinese, it is a reliable news source if they can distinguish between authoritative and commercial media publishers.

4.2. Limitations

The survey sample is convenient sampling and did not provide a significant sample size of participants aged 49 and beyond. The relationship between the elders and their shifts in tastes for social media content due to pandemic influence remains unknown.

Also, since this study mainly focuses on video content, the concept of social interaction in the gratification theory is overlooked.

Even though survey questionnaires specifically address the answers are “under the pandemic influence,” there are possibilities to have omitted variables for characteristics that are not observable, such as people shifting their preferences due to indirect relationships with Covid-19, having babies during the Covid-19 pandemic or lost jobs during Covid-19 for non-pandemic related reasons.

Also, the sample shows little social media popularity among people older than 49 in the sample. This result might be because of the convenient sample design. Thus, the relationship between pandemic influence and shifts in age group >49 might be biased.

4.3. Future Directions

It provides a better understanding of the users' gratification from social media use. The results indicate that the social environment (the pandemic) plays an essential role in the popularity of social media content, perhaps even drifting the media platform's future development away from the original purpose of social media. Many users use social media to gain information and receive news. By

knowing this, the merchant better composes their video promotes, and social study can better comprehend the trend and purpose of the population's social media usage.

More extensive sample datasets and random assign arrangement is recommended to examine similar studies among age groups >49 due to the unclearly of elders' usage of social media compared to youngsters. While comparing statistics among the same social group, difference-in-difference (DID) regression can be exploited to produce a direct causal result when controlling for fixed effects such as household income, education level, and marital status.

5. Conclusions

This study is the first research on how the Covid-19 pandemic influences users' preference for content on TikTok. Results indicate that the pandemic does influence TikTok users, where their preference shifts are responses to the pandemic and quarantine policy in China with high correlation. This study predicts the individual response and change when experiencing a dramatic social and environmental shock, measured by their taste shift for short videos on TikTok. It examines if different social groups behave differently. A variety of media content and various social groups are included in the calculation. No significant statistics show which social group (age, gender, occupation) is more affected by the pandemic regarding the tastes shift. However, the correlation between the pandemic influence and taste shift does tend to be more significant as age increases.

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