Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
The motivations and uses of mainstream and social media during the COVID-19 pandemic in China: A structural equation modeling approach

Xiao Wang
School of Communication, Rochester Institute of Technology, 92 Lomb Memorial Drive, Rochester, NY, USA

ARTICLE INFO
Keywords:
Social media
Mainstream media
Information-seeking
Emotion management
COVID-19

ABSTRACT
Public health emergencies often prompt individuals to use a variety of communication channels for various needs. The COVID-19 pandemic imposed an extreme case of lockdown in China and limited many Chinese's activities to what they could do in their homes. Understanding the public's motivations to use both mainstream media and alternative media (e.g., social media) can help better serve the public during a public health emergency. Based on an online survey of 528 participants, conducted in China in April 2020, the present investigation revealed that the participants had stronger information-seeking and surveillance motivations to use mainstream media than alternative media. There were small, nonsignificant differences between other motivations to use mainstream media and social media (i.e., emotion management, expressive motivation, and social interaction/community motivation). Participants had stronger credibility-based attitudes toward mainstream media than toward alternative media. Among these motivations, the information-seeking motivations to use mainstream media and alternative media were the strongest predictor of their respective attitudes toward mainstream media and alternative media. Further results show that both types of media use can be predicted by other motivations (e.g., social interaction and emotion management), instead of their attitudes toward the media, and can be mindless and habitual.

The novel coronavirus (SARS-CoV-2), the virus that causes the COVID-19 disease, was initially identified in Wuhan, China, at the end of 2019 (The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team, 2020; Zhu et al., 2020). This highly infectious virus causes pneumonia-like symptoms in patients and can be deadly for many, particularly the elderly (Zhu et al., 2020; Centers for Disease Control and Preventions, n.d.). From late January to mid-March, much of China was under some form of lockdown or close management (Ginia, 2020; Kraemer et al., 2020). In addition to the disruption to the economy and public health, the COVID-19 pandemic can bring emotional and physical tolls on people (World Health Organization [WHO], 2020). A tremendous amount of research has been conducted to examine the genetic makeup of the virus and the epidemiological aspect of how the virus spreads (e.g., Kraemer et al., 2020; Zhu et al., 2020).

For communication scholars, it is important to understand the communication activities that occurred during the pandemic, particularly when a large proportion of the Chinese population was ordered to stay at home and choices for daily activities were limited. When the pandemic took an emotional and physical toll on the Chinese during the COVID-19 lockdown (WHO, 2020), what functions did the media fulfill for them? And in a world where disinformation and political agendas abound, what functions did the mainstream media and alternative media serve, and how much trust did the public place on them? These critical are important for us to consider.

At the theoretical level, this present research is largely grounded on the uses and gratifications framework (e.g., C. Lin, 1999; Rubin, 2009). Previous research has focused on media use during a “normal” time and focused less on the uses of the media during special events and circumstances. From a practical perspective, understanding the role that the mainstream and alternative media (e.g., social media) play can help better serve the public during a public health emergency and during a time when the public lacks other resources at their disposal. No research has examined the use of mainstream and alternative media during a pandemic, particularly news- and information-seeking related to COVID-19. Therefore, the primary aims of this research are to examine the Chinese's motivations to use mainstream media and alternative media.

1. Possible information sources during the COVID-19 lockdown in China

During the COVID-19 pandemic, China ordered a lockdown in Wuhan...
and its neighboring cities starting on January 23, 2020 (WHO, 2020). Much of the rest of the country enacted some form of lockdown and quarantine shortly afterward. The New York Times estimated that as many as 776 million Chinese experienced some form of lockdown (Zhong & Moser, 2020). These measures prevented residents from going outside of their homes and apartment complexes; activities that residents could perform were thus limited to what they could do in their homes. Given the physical limitations of providing daily necessities, the provision of print copies of newspapers was unlikely during that time. Furthermore, major Chinese newspapers, for example, the People’s Daily, Nanfang Daily, Xinmin Evening News, and Qianjiang Evening News, provide free digital copies on their respective websites. Thus, this present research focused on the mainstream media (i.e., news and interactions through online news/newspapers, broadcast television, and major websites) and alternative media (i.e., social media or individual WeChat accounts).

2. Uses and gratifications: motivations for media use

Media use research often adopts the uses and gratifications framework (Rubin, 2009). Among the assumptions of uses and gratifications (e.g., Rubin, 2009) and relevant to this research, the first assumption is that audience members have different needs that can be satisfied through a variety of activities, including media consumption. Second, audience members are active and engage in media use to satisfy their needs; that is, media use behaviors are goal-oriented and purposeful. Third, social and psychological variables influence one’s expectation of the uses of various media, which in turn predict one’s evaluation of the usefulness of media use and the actual media use. In recent decades, the uses and gratifications framework has been applied to identify the motivations that media consumers had toward various media types, including traditional media and social media (see Rubin, 2009 for a review). These motivations include, but are not limited to, entertainment, pass time, information/surveillance, mood management, social interaction, and status-seeking (e.g., Leung, 2013; Rubin, 2009; Ruggerio, 2000). This research tradition has also examined why media consumers consume specific programs or genres, for example, online and offline news (C. Lin et al., 2005) or competition-based reality TV shows (e.g., Barton, 2009).

Although differences in the classifications of motivations remain, there are some overarching motivations for media use, including news media use. That is, different media may satisfy similar needs and motivations. McQuail et al.’s (1972) early theorizing showed that four types of gratifications (e.g., diversion, surveillance, personal relationships, and personal identity) were major gratifications. Related to news media use, early research identified surveillance, entertainment, social interaction, and para-social interaction motivations for television news consumption (Palmgreen et al., 1980). C. Lin et al. (2005) found that entertainment, interpersonal communication, and information scanning and skimming (general surveillance and learning) predicted offline and online news consumption. These motivations resembled the motivations for television news consumption. Furthermore, motivations to seek and use social media news can be similar to online news seeking motivations. Hanson and Haridakis (2008) found that motivations for YouTube news consumption included leisure entertainment, information seeking, companionship, and interpersonal expression motivations.

3. Motivations to use mainstream media vs. alternative media during a crisis

The following literature review of the uses and gratifications of mainstream versus alternative media use during a crisis will draw on the discussion in the preceding and the more recent theorizing on motivations to use mainstream media and alternative media. The gratifications that the two forms of media provide and the role that these gratifications play in media uses can be different for mainstream media and alternative media. Sundar and Limperos (2013) reviewed previous uses and gratifications research as applied to traditional media and new media. First, Sundar and Limperos confirmed that previous research showed considerable overlap between the types of gratifications that were afforded by traditional and new media. Second, Sundar and Limperos argued that these gratifications could have different roles when applied to new technologies (e.g., video games and virtual technology). New technologies can elicit new gratifications while providing a similar, broad category of gratifications. Particularly, the uses of traditional and mainstream media can be guided by content-related motivations (e.g., information seeking or entertainment), whereas the uses of the new media technology can be guided by process-related motivations (e.g., the experience of using a new technology). That is, Sundar and Limperos (2013) stated that the new technology also provides process gratifications by way of experiencing it. The information seeking (or surveillance) motivation has been frequently addressed in news-related uses and gratifications research. Previous research has repeatedly found that the news media can provide various forms of information for the audience and serve an information or surveillance purpose. For example, Palmgreen et al. (1980) found that viewers believed that televised news could provide information about important issues. C. Lin et al. (2005) found that participants scan or read newspapers or online news for an information purpose. Similarly, alternative media can also provide information to the public. Gil de Zuniga et al. (2012) found that when getting news online or through social network sites, participants can be motivated to seek information about current events and local communities or obtain news for guidance. Lachlan et al. (2021) state that during a public crisis, the audience often turns to the traditional media, social media, and interpersonal communication to seek information. However, traditional media and alternative media do not provide information of the same quality or utility. Although the traditional, mainstream media in China may be censored and serve a propaganda purpose, the information would be more likely to go through gatekeepers and reflect the policies and trends that may affect the public’s daily lives (Qiu, 1999). On the other hand, it should be acknowledged that without gatekeepers, social media can teem with disinformation that aims to deceive and misinformation that is unchecked by users (Chadwick & Vaccari, 2019). Apuke and Omar (2021) observed that fake news was prevalent during the COVID-19 pandemic and could be shared by social media users. As such, hypothesis 1 was proposed.

H1. Chinese participants would form higher information seeking motivations toward using the mainstream media than the alternative media.

The emotional management motivation is also termed as mood management. The theorizing on mood management states that participants’ preference for media content (e.g., news) is often based on the characteristics of the media content (Bryant & Zillmann, 1984). In general, the audience would like to maintain a positive mood. Those with a positive mood would like to continue the positive mood, whereas those with a negative mood would like to alleviate or change the negative mood. Media use, among many options, can help the audience regulate their mood. For example, watching television and listening to music can help participants lift their mood (Saarikallio & Erkkilä, 2007). The audience can also rely on news to regulate emotions: News can have entertainment value and help relieve boredom, and positive news stories and information can help the audience obtain a positive mood. Health and medical information in the media, if reassuring, can help alleviate anxiety and worry among the participants or confirm their positive emotions.

On the other hand, social media allows individuals to express their emotions. Although not related to health crises, Wang (2013, 2015) state that one function of social media is to help individuals release their emotions. For example, those feeling negative emotions, particularly anger and worry, need to attack or vent. On the other hand, those who feel positive may seek confirmation to maintain the positive emotions by turning to their social network with likeminded individuals. Lachlan et al. (2014) analyzed tweets related to Hurricane Sandy and found that Twitter users used tweets to express risk awareness, concerns, and emotions. Similarly, X. Lin et al. (2016) examined the Chinese WeChat
use and found that both informational and emotional content existed in the WeChat messages about a smog emergency in China. Thus, hypothesis 2 was proposed:

**H2.** Chinese participants would have stronger emotional management motivation to use alternative media than mainstream media.

Previous research has revealed that media use can help individuals during social interaction and help express their values by discussing the media content (e.g., Palmgreen et al., 1980; Wang, 2013, 2015). The discussion of the content on traditional media is often carried out through interpersonal communication and more recently through social media. Different terms were used for this motivation in the literature, for example, social interaction or interpersonal utility. The present research use value-expressive motivations and social interaction/community motivations. The nature of social media (e.g., Kim & Hastak, 2018; Lovejoy & Saxton, 2012) can serve some functions better than the traditional, “one-way” news consumption. First, the interactive nature of social media can allow users to share and respond to news feeds easily and quickly and thus help aid in the expression of one’s views. Thus, the information channel and experience will make social media a much more convenient way to express one’s opinions and views. For example, Wang (2013, 2015) found that the use of social media can help express one’s opinions while watching a sports game. Secondly, social media, for example, WeChat in China, allows users to send friend requests to those that they know (WeChat, n.d.) and help create a social network or online community of likeminded individuals (e.g., Kim & Hastak, 2018; Lovejoy & Saxton, 2012). Because of the nature of social media, expression and community building motivations for using social media can be stronger than those for the expression and community building motivations for using mainstream media. That is, participants should have higher motivations to use social media to express values and interact with others than using the one-way mainstream media.

**H3.** Participants would have stronger (a) value-expressive motivations and (b) social interaction (i.e., community) motivations to use alternative (social) media than mainstream media.

4. **Relationship among motivations, attitudes toward the media, and media use**

Participants respond to motivation questions when they are presented with such questions. Subsequent factor analysis of the responses can usually identify several factors. The utility of the uses and gratifications approach is probably not about what factors are identified through factor analysis. Instead, it should examine whether these factors (i.e., motivations and gratifications) are related to participants’ evaluation of a media channel or their subsequent use (Rubin, 2009). Attitudes are traditionally defined as one’s positive or negative evaluation of an attitude object (e.g., a behavior or media use; Fishbein & Ajzen, 2010). Consistent with this general definition, attitudes toward a media channel are defined as one’s favorable and unfavorable assessment of the media channel. Previous research has shown that this concept consists of several aspects. Dutta-Bergman (2004) stated that information quality and completeness are important factors why people engage in medical information-seeking behavior. Similarly, the use of traditional news media and social media can be evaluated in terms of their credibility and usefulness, in addition to accuracy and readability (Wang & Hickerson, 2016). Research on uses and gratifications has also examined this aspect. Tustin (2010) found that dissatisfied cancer patients (presumed to have a higher information-seeking motivation), compared to satisfied cancer patients, were more likely to rate the Internet as a better online health information source than their oncologists. That is, the primary functions that the media serve will be likely to influence one’s attitudes toward the media.

Media use behavior is often measured based on the amount of time spent on a given media channel or the frequency of use (de Vreese & Neijens, 2016). The overall evaluation of a media channel, in turn, will predict people’s media use behaviors (see Fishbein & Ajzen, 2010 for a reference). If their behaviors are reasoned, the media audience’s attitudes toward a particular media predict their media use. Interestingly, previous research often examined the relationships between motivations and media use, bypassing attitudes (Rubin, 2009). For example, C. Lin et al. (2005) identified four motivations (e.g., interpersonal communication, entertainment, and information) and found that only the information scanning motivation predicted online news use. Because of the lockdown measure and the current state of print media, the present research focuses on two forms of media that were accessible to the majority of the Chinese during the lockdown and close management period. Unlike previous research on the general use of traditional media or social media, residents in China (and elsewhere in the world) used these media during the lockdown or stay-at-home periods for a variety of purposes. Consistent with uses and gratifications assumptions, the audience is active and will evaluate their media uses based on the functions that the media serve. Such evaluation will then influence the audience’s media use. As such, I propose that the evaluation of the media can mediate the relationship between motivations and media use.

**H4.** Participants’ attitudes toward mainstream media are a function of their (a) emotion management, (b) information seeking, (c) value-expressive, and (d) social interaction (i.e., community) motivations.

**H5.** Participants’ attitudes toward alternative media are a function of their (a) emotion management, (b) information seeking, (c) value-expressive, and (d) social interaction (i.e., community) motivations.

**H6.** Participants’ use of (a) mainstream media and (b) alternative media is positively related to their attitudes toward mainstream media and alternative media, respectively.

5. **Method**

Data for this analysis were part of a larger dataset from an online survey in China, conducted on April 12 and 13, 2020. Most of the country lifted its lockdown by March 2020. Wuhan, the initial epicenter of the novel coronavirus, officially lifted its 76-day lockdown on April 8, 2020, the longest lockdown for any place in China during the COVID-19 pandemic.
5.1. Sample

Wjx.cn, a Chinese company that provides online survey-related services, coordinated survey data collection in April 2020. Wjx.cn currently has 2.6 million panel members. According to wjx.cn, its panel members were randomly recruited from the visitors who previously participated in surveys hosted by wjx.cn. A total of 2,256 invitations were sent to its panel members. The data analysis was based on the final sample of 528 participants, representing a 23.4% response rate. A total of 217 participants were from Hubei province, who experienced a longer and stricter lockdown. A total of 311 participants were from other parts of the country, including Guangdong, Beijing, Shanghai, and Jiangsu. All other provinces but Xizang were represented in the sample. Socio-demographic characteristics of the participants are presented in Table 1.

5.2. Questionnaire

The motivation questions were adapted from various scales in the uses and gratification literature on media use (Barton, 2009; Gil de Zúñiga et al., 2012; C.; Lin, Salwen, et al., 2005; Sundar & Limperos, 2013; Wang, 2015). These questions were heavily edited to reflect the motivations to use mainstream media and alternative media related to COVID-19. For these questions, responses ranged from 1 (strongly disagree) to 7 (strongly agree). The same items were used to measure the motivations to use both types of media except that “mainstream media” was replaced by “alternative media.” Only questions related to motivations to use mainstream media are listed below. Questionnaire items and alpha coefficients are presented in Table 2.

The emotional management motivation was measured by the following items: “The use of mainstream media can help me get away from worries,” “… can help cheer me up,” and “… can help me relax.” Alpha coefficients were .79 and .80 for mainstream media and alternative media, respectively.

The information seeking (or surveillance) was measured by four items: “The use of mainstream media can provide me with the latest statistics about the novel coronavirus,” “… provide me with medical information about coronavirus (e.g., what it is and how to prevent it),” “… provide me with information about my community (e.g., policies and medical facilities),” “… provide me with information about coronavirus-related policies in our country (e.g., policies/medical issues).” Alpha coefficients were .77 and .84 for mainstream media and alternative media, respectively.

The social interaction (i.e., community) motivation was measured by three items: “The use of mainstream media lets me feel I’m part of my community,” “… can help solve problems,” and “… can help other community members.” Alpha coefficients were .79 and .81 for mainstream media and alternative media, respectively.

Motivations to express values were measured by three items: “The use of mainstream media can help show my values,” “… allows me to express my views,” and “… allows me to show support for others that we are in it together.” Alpha coefficients were .81 and .84 for mainstream media and alternative media, respectively.

Note. N = 528. Only motivations questions are presented. Attitudes toward the media and media uses are presented in the text and in the online supplementary materials. For the mainstream media variables, the fit statistics are as follows: Satorra-Bentler (S-B) χ²(215, N = 528) = 506.6, p < .001, root mean square error of approximation (RMSEA) = 0.051, 90% CI of RMSEA [0.045-0.056], and comparative fit index (CFI) = 0.92, standardized root mean squared residual (SRMR) = 0.059. For the alternative media motivations and uses, the fit statistics are as follows: S-B χ²(194, N = 528) = 492.0, p < .001., RMSEA = 0.054, 90% CI of RMSEA [0.048-0.060], and CFI = 0.93, SRMR = 0.059.

Table 2

| Motivation and Item | Mainstream Media | Alternative Media |
|---------------------|------------------|-------------------|
| Emotion management  | α = .79          | α = .80           |
| … can help me get away from worries | .76 | .82 |
| … can help cheer me up | .82 | .81 |
| … can help me relax | .65 | .69 |
| … can provide me with heart-warming stories | .53 | .53 |
| Information seeking (or surveillance) | α = .77 | α = .84 |
| … can provide me with the latest statistics about the novel coronavirus | .79 | .81 |
| … can provide me with medical information about coronavirus (e.g., what it is and how to prevent it) | .67 | .82 |
| … can provide me with information about my community (e.g., policies and medical facilities) | .62 | .70 |
| … can provide me with information about coronavirus-related policies in our country (e.g., policies/medical issues) | .65 | .80 |

Note. N = 528. Only motivations questions are presented. Attitudes toward the media and media uses are presented in the text and in the online supplementary materials. For the mainstream media variables, the fit statistics are as follows: Satorra-Bentler (S-B) χ²(215, N = 528) = 506.6, p < .001, root mean square error of approximation (RMSEA) = 0.051, 90% CI of RMSEA [0.045-0.056], and comparative fit index (CFI) = 0.92, standardized root mean squared residual (SRMR) = 0.059. For the alternative media motivations and uses, the fit statistics are as follows: S-B χ²(194, N = 528) = 492.0, p < .001., RMSEA = 0.054, 90% CI of RMSEA [0.048-0.060], and CFI = 0.93, SRMR = 0.059.
coefficient was 0.75. Additional questions included the participants’ demographic background, whether they were tested for the novel coronavirus, and the days that they experienced the lockdown.

6. Results

Questions for using mainstream media and alternative media were submitted to confirmatory factor analysis separately. Confirmatory factor analysis aims to confirm the construct validity of the factors that were used in data analysis; that is, items used to measure a concept should load highly on their respective factor. The normalized Mardia’s coefficients for the traditional media analysis and alternative media analysis were 50.4 and 56.4, which were greater than 25. That is, the data showed a departure from the multivariate normality assumption for the maximum likelihood estimate was used to remedy the parture from the multivariate normality assumption for the maximum likelihood estimate used for structural equation modeling analysis. As such, the robust maximum likelihood estimate was used to remedy the violation of the multivariate normality assumption. For the mainstream media variables, the fit statistics are as follows: Satorra-Bentler (S-B) χ²(215, N = 528) = 506.6, p < .001, root mean square error of approximation (RMSEA) = 0.051, 90% CI of RMSEA [0.045–0.056], and comparative fit index (CFI) = 0.92, standardized root mean square residual (SRMR) = 0.059. Standardized factor loadings for the items ranged from 0.53 to 0.87. For the alternative media motivations and uses, the fit statistics are as follows: S-B χ²(194, N = 528) = 492.0, p < .001, RMSEA = 0.054, 90% CI of RMSEA [0.048–0.060], and CFI = 0.93, SRMR = 0.059. Standardized factor loadings for the items ranged from 0.57 to 0.82, except that one loading was 0.49. An examination of the factor loadings of the measurement items (i.e., questionnaire items), overall model fit indices, and factor structures showed that these measurement items were good indicators of the underlying factors.

The analysis first used paired-sample t-tests to compare the participants’ motivations and attitudes toward using the mainstream and alternative media. Because there were six pairs of comparisons, the alpha level was set to 0.05/6 = 0.0083. Then, structural equation modeling analysis was conducted to examine the relationships among motivations, attitudes toward the media, and media use.

For H1, Table 3 showed that participants were more motivated to use mainstream media (M = 5.99, SD = 0.81) than to use alternative media (M = 5.18, SD = 1.11) for an information and surveillance purpose, t(527) = 16.91, p < .001. Thus, H1 was supported.

For H2, Table 3 showed that participants’ motivations to use mainstream and alternative media did not differ on emotion management. For H3a, the results showed that there was not a difference between the social interaction (i.e., community) motivation to use mainstream and alternative media. For H3b, an additional paired-sample t-test showed that there was a small difference of 0.12 between the expressive motivations to use mainstream and alternative media t(527) = −2.57, p = .010, Cohen’s d = 0.11. Because I set alpha to .0083, the result was nonsignificant. Thus, H3 was not supported.

Furthermore, participants had more favorable attitudes toward mainstream media (M = 5.66, SD = 0.97) than toward alternative media (M = 4.88, SD = 1.13), t(527) = 15.38, p < .001. However, on average, participants spent more time on each of the alternative media activities (M = 37.64, SD = 23.20) than on the mainstream media (M = 32.35, SD = 21.26), t(527) = 6.15, p < .001.

To test H4, H5, and H6, structural equation modeling analysis was conducted to examine the relationships among participants’ motivations and their attitudes toward and use of the mainstream and alternative media, separately. For mainstream media use, structural equation modeling analysis showed a good fit: S–B χ²(218, N = 528) = 510.9, p < .001, RMSEA = 0.050, 90% CI of RMSEA [0.045–0.056], and CFI = 0.92. Solid (vs. dashed) lines indicate significant relationships (p < .05, two-tailed). For the alternative media use model, S–B χ²(197, N = 528) = 496.4, p < .001, RMSEA = 0.054, 90% CI of RMSEA [0.048–0.060], and CFI = 0.93, and SRMR = 0.060.

For H4, Fig. 1 showed that participants’ attitudes toward mainstream media were predicted by their motivations to regulate emotions (β = 0.17, p < .031), to seek information (or surveillance purpose; β = 0.44, p < .001), and to interact (i.e., community; β = 0.21, p < 0.054), but not to express values or opinions (β = 0.09, p = .157). Thus, H4 was partially supported.

For mainstream media use (H6a), Fig. 1 showed that mainstream media use was positively associated with motivation to help (β = 0.57, p < .001) and negatively associated with attitudes toward it (β = −0.15, p = .028). The relationship specified in H6a was opposite of what was hypothesized and thus, was not supported.

For H5, Fig. 2 showed that participants’ attitudes toward the alternative media were predicted by emotion regulation (β = 0.23, p < .015) and information seeking (β = 0.52, p < .001), but not by the value-expression motivation (β = 0.00, p = .989) or interaction (community) motivation (β = 0.14, p = .133).

For alternative media use (H6b), Fig. 2 showed that it was positively associated with emotion management (β = 0.30, p < .001) and attitudes (β = 0.21, p = .003). Thus, H5 was partially supported. H6b was also supported.

7. Discussion

The present analysis examined the motivations to use mainstream and alternative media for COVID-19 related news and information in China. This case represents a unique media use situation where much of the nation was under lockdown during a public health emergency.

First, confirmatory factor analysis showed four motivations to use mainstream and alternative media emerged. It should be acknowledged that the same questions were used to measure four mainstream and alternative social media use motivations to allow for comparison in this research. Paired-sample t tests showed that motivation to seek information on mainstream media was stronger than that on alternative media.

Table 3

|                  | Mainstream Media | Alternative Media | Mean Difference | SD | t    | df   | p value |
|------------------|------------------|------------------|-----------------|----|------|------|---------|
| Emotion management | M = 4.98        | M = 4.95         | 0.02            | 0.94| −0.57| 527  | .570    |
|                  | SD = 1.07        |                  |                 |    |      |      |         |
| Information seeking | M = 5.99b       | M = 5.18b        | 0.81            | 1.10| 16.91| 527  | <.001   |
|                  | SD = 0.81        |                  |                 |    |      |      |         |
| Value-expression | M = 5.05a        | M = 5.17a        | −0.12           | 1.08| −2.57| 527  | .010    |
|                  | SD = 1.21        |                  |                 |    |      |      |         |
| Social interaction/community | M = 5.03 | M = 4.95 | 0.08 | 1.06 | 1.82 | 527 | .070 |
|                  | SD = 1.11        |                  |                 |    |      |      |         |
| Attitudes toward the media (e.g., trust/credibility-based) | M = 5.66b | M = 4.88b | 0.78 | 1.16 | 15.38 | 527 | <.001 |
|                  | SD = 0.97        |                  |                 |    |      |      |         |
| Media use        | M = 32.35a       | M = 37.64a       | −5.29           | 19.78| −6.15| 527  | <.001   |
|                  | SD = 21.26       |                  |                 |    |      |      |         |

Note: N = 528.  
*a p < .05.  b p < .001.*
That is, this research shows that for a health-related issue, mainstream media were perceived to fulfill this function much better and perceived to be more useful and credible than the alternative social media. Public trust of mainstream media during a public health emergency is generally high. This may not be surprising given that social media lacks gatekeepers and teems with misinformation that aims to gain web traffic or to deceive (Chadwick & Vaccari, 2019). Further structural equation modeling analysis showed that there was a strong correlation between the information-seeking motivation and attitudes toward the two types of media. Furthermore, Figs. 1 and 2 showed the patterns of the motivations in predicting attitudes toward mainstream media and alternative media. This shows the importance of the quality of information, compared to other motivations, in evaluation of and attitudes toward particular media outlets. That is, the content is associated with evaluation and the credibility of the media outlets or types of media.

There were very small, nonsignificant differences between the other three motivations toward mainstream and alternative media, using adjusted \( \alpha = 0.0083 \). Related to the expressive motivation, one would think that because alternative media provide a means to express themselves and mainstream media are one-way, participants would have a higher expressive motivation to use alternative media than mainstream media. However, this is not the case here. Further structural equation modeling analysis showed that value-expressive motivations did not predict attitudes toward mainstream media or alternative media. The censorship of both mainstream and social media during the pandemic could have contributed to a similar level of expressive motivations to use the two types of the media. This indicates that the functions of mainstream and alternative media can be limited by extraneous factors. That is, although Sundar and Limperos (2013) convincingly argued for the need to consider the importance of the functionality of the types of

---

**Fig. 1.** Structural Equation Modeling Analysis of Motivations That Predicted the Chinese’s Attitudes Toward and Uses of Mainstream Media During COVID-19 Lockdown.  
Note. \( N = 528 \). Satorra-Bentler scaled \( \chi^2 \) (218, \( N = 528 \)) = 510.9, \( p < .001 \), root mean square error of approximation (RMSEA) = 0.050, 90% CI of RMSEA [0.045–0.056], and comparative fit index = 0.92. Solid (vs. dashed) lines indicate significant relationships (\( p < .05 \), two-tailed). Standardized factor loadings for indicators of the variables ranged from 0.54 to 0.86 and are not shown in the above.

**Fig. 2.** Structural Equation Modeling Analysis of Motivations That Predicted the Chinese’s Attitudes Toward and Uses of Alternative (Social) Media During COVID-19 Lockdown.  
Note. \( N = 528 \). Satorra-Bentler scaled \( \chi^2 \) (197, \( N = 528 \)) = 496.4, \( p < .001 \), root mean square error of approximation (RMSEA) = 0.054, 90% CI of RMSEA [0.048–0.060], and comparative fit index = 0.93. Solid (vs. dashed) lines indicate significant relationships (\( p < .05 \), two-tailed). Standardized factor loadings for indicators of the variables ranged from 0.57 to 0.82 (except for one loading of 0.49) and are not shown in the above.
media, future research should further consider the role of extraneous factors including the political environment or the type of issues under consideration.

Emotion management and social interaction/community motivations, compared with information-seeking motivations, were weak or relatively modest predictors in both cases. However, emotion management was a strong predictor of alternative media use, and social interaction/community motivations were a strong predictor of mainstream media use. Additional data analysis (Table S1 in online supplementary materials) showed that “pass time” and “no other things to do” can be treated as part of emotional management based on confirmatory factor analysis and based on theory (Reinecke, 2017, pp. 1–13). These items are related to boredom or mindless use of alternative media. Treating these items as part of emotion management to use alternative media showed consistent results as reported in Fig. 2. The results indicate that the use of alternative media was directly associated with the affective or experience-related motivations. Related to social interaction/community motivations, the results were inconsistent with the theorizing that alternative or social media can help foster online communities, and related motivations can predict alternative media use. Indeed, social interaction/community motivations were a strong predictor of mainstream media use. It is possible that mainstream media can provide critical information that can be used to help others and share human interest examples that can connect with the audience and local media use can foster community integration.

Taken together, previous research and the present results indicate that mainstream media do have the ability to help foster a sense of community. As such, those who have a higher social interaction motivation (or more strongly believe so) would engage in mainstream media use. This research did not find that credibility-based attitudes were predictive of mainstream media use and were only weakly predictive of alternative media use. Instead, the social interaction/community motivations were strongly, directly associated with mainstream media use, and emotion management motivations were strongly, directly associated with alternative media use. There can be multiple reasons: First, media use does not need to be predicted by credibility-based attitudes toward the media. That is, the present conceptualization of the credibility-based attitudes can be just one way of how attitudes are conceptualized. Second, Figs. 1 and 2 also revealed that the social interaction/community motivation directly predicted mainstream media use and that emotion management motivations directly predicted alternative media use. These indicate that the two types of media use are not just related to the credibility or general usefulness of the media. Other motivations underlie the audience's media use. That leads to the third point: Attitude research (Fishbein & Ajzen, 2010) has also proposed an experiential attitude that is based on the evaluation of the experience of performing a behavior (e.g., media use). In some cases, experiential attitudes predicted people’s behaviors or behavioral intentions and are more important than credibility and usefulness-based attitudes. Particularly, as Sundar and Limperos (2013) that new media offers participants a way to experience it. Lastly, it is possible that the participants' self-report after the lockdown was lifted was less than perfect, which could have contributed to the nonsignificant or weak relationships between attitudes toward the media and media use.

7.1. Limitations and practical implications

Several limitations should be acknowledged. First, this analysis was based on a survey conducted using an online panel. Online survey panel providers are often not fully forthcoming regarding their panel recruitment. Participants in this sample were younger and more educated than the general Chinese population. Their responses were not representative of the Chinese population. The majority of the participants lived in urban areas where the lockdown could be stricter, compared to those in rural areas where there was more open space or outdoor activities were possible. Second, this research was conducted after all cities lifted their lockdown. Research based on self-report is often susceptible to recall error, particularly the relationship between attitudes toward the media and media use can be weakened or inaccurate. Thirdly, it should be acknowledged that this research investigated media use motivations and attitudes under a very special circumstance. Thus, the results cannot be generalized to media use in a general setting, but this research adds to the extant literature on media use under a public health emergency. Fourth, it is possible that because the survey was conducted after the lockdown was over and measured all concepts in one sitting, individuals' perceptions of credibility could be based on their media use. That is, we cannot rule out the reverse causal order. Lastly, additional research examining the antecedents of these motivations should be considered. For example, how do participants' risk perceptions and emotional status influence their information-seeking or emotion management motivations (e.g., Bryant & Zillmann, 1984; Griffin et al., 1999). Such analysis can help understand the formation of various motivations better.

The present research adds to the literature in several areas: It first compared motivations to use two different types of media for COVID-19 related news and information and provides an account of the Chinese public's perceptions and uses of mainstream and alternative media.

Cautiously, I acknowledge that attitudes toward media (i.e., media evaluation) are not necessarily associated with higher media use. Many media use behaviors can be habitual and mindless.

Funding

The publication of this open access article was paid for through a Publication Cost grant provided by the College of Liberal Arts at Rochester Institute of Technology.

Declaration of competing interest

The author declares that he has no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.chbr.2021.100098.

References

Apute, O. D., & Omar, B. (2021). Fake news and COVID-19: Modelling the predictors of fake news sharing among social media users. Telematics and Informatics, 56, 101475. https://doi.org/10.1016/j.tele.2020.101475

Barton, K. M. (2009). Reality television programming and diverging gratifications: The influence of content on gratifications obtained. Journal Of Broadcasting & Electronic Media, 53(3), 460–476. https://doi.org/10.1080/0883815907102659

Bryant, J., & Zillmann, D. (1984). Using television to alleviate boredom and stress: Selective exposure as a function of inducing excitational states. Journal of Broadcasting, 28, 1–20. https://doi.org/10.1080/08838158409386511

Centers for Disease Control and Prevention. Who is at increased risk for severe illness. n.d. Retrieved from https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-at-increased-risk.html

Chadwick, A., & Vescari, C. (2019). News sharing on UK social media: Misinformation, disinformation, and correction. Retrieved from https://repository.lboro.ac.uk/articles/News_sharing_on_UK_social_media_misinformati,

Dutta-Bergman, M. J. (2004). The impact of completeness and web use motivation on the credibility of e-health information. Journal of Communication, 54(2), 253–269. https://doi.org/10.1111/j.1460-2466.2004.002672.x

Fishbein, M., & Ajzen, I. (2010). Predicting and changing behavior: The reasoned action approach. New York: Psychology Press.

Gastano, C., & McGrath, K. (1986). Measuring the concept of credibility. Journalism Quarterly, 63, 451–462. https://doi.org/10.1177/002248718606303003

Gil de Záñiga, H., Jung, N., & Valenzuela, S. (2012). Social media use for news and individuals’ social capital, civic engagement and political participation. Journal of Computer Mediated Communication, 17(3), 319–336. https://doi.org/10.1111/j.1083-6101.2012.01574.x

Griffin, R. J., Dunwoody, S., & Neuwirth, K. (1999). Proposed model of the relationship of risk information seeking and processing to the development of preventive behaviors. Environmental Research, 80(2), 5220–5245. https://doi.org/10.1006/ehrs.1998.3940
