Original Research

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Who Can Help Me? Citizens' Help-Seeking on Weibo During the Shanghai Lockdown

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Abstract

Objective: In the context of the Omicron-induced lockdown in Shanghai, this paper investigated the appeals for assistance by citizens on Weibo, aiming to understand their principal challenges and immediate needs.
Methods: This paper collected Weibo posts ($N = 1040$) containing the keyword "Shanghai Anti-epidemic Help" during the citywide lockdown. The online help requests from Shanghai citizens were analyzed across 7 dimensions, including the help sought, level of urgency, help recipient, the intended beneficiary of the help, expression, position, and emotion.
Results: The study found that the most common requests for assistance were related to social isolation, specifically in the areas of home and community (34.81%), isolation (10.86%), and personal freedom (7.31%). Of all help requests, 11.83% were deemed very urgent. Most of the Weibo posts sent out a plea for help to Internet users (56.06%), primarily requesting help for themselves (26.25%) or their families (27.60%).
Conclusions: The study found that personal freedom, food, and medical care were the most frequently sought help from the public, and most of the public's positions and emotions were pessimistic. The relevant findings revealed the public's needs and status during the city closure, providing a reference for emergency preparedness in public health events or emergencies.

Omicron (B.1.1.529) is a variant of COVID-19, characterized by high virulence, short incubation period, rapid transmission, and high viral load.[1,2] As of January 2022, 128 countries and regions have reported cases of Omicron infection,[3] and in early March 2022, an imported transmission of Omicron occurred in Shanghai, China, with a scale of transmission second only to the Wuhan COVID-19 outbreak 2 years earlier.[4] The Chinese government had been using a "Zero-covid policy" in response to COVID-19 before the end of 2022,[5] which involves controlling the spread of the virus by isolating infected individuals and blocking dangerous areas.[6,7] The Omicron infection situation in Shanghai was so severe that the city was forced to lock down on March 28, 2022 to prevent the spread to other cities. People were asked not to leave their homes or neighborhoods except those with special permits (e.g., health care workers), and the process lasted more than a month.[8]

Shanghai is one of the largest cities in China, boasting a population of over 25 million.[9] This time, the Shanghai lockdown caused by the Omicron variant was the most extensive known city-wide lockdown in the world.[10] During the Shanghai lockdown, the city's systems could not function correctly, and citizens had to go through the community to get supplies and help. People had to stay at home because they could not go out to buy food and daily necessities, exercise, walk their dogs, or socialize.[11] They had to rely on community-based unified distribution (where the government purchases the goods and then community workers come to citizens' homes to distribute them) or community group purchasing (where individuals place orders on a shopping platform and then community workers come to their homes to distribute them) for the materials they needed to live.[12] Despite the Shanghai government's best efforts to meet the citizens' needs, the single mode of distribution, the lack of procurement sources, the prolonged isolation at home, and the anxiety about contracting COVID-19 still overwhelmed many Shanghai citizens.[13]

In this predicament, many citizens sought help through Weibo, the largest social media platform in China, where help-seekers can post and receive replies, reposts, advice, or support from others.[14,15] Compared with traditional help-seeking methods, seeking help online can disseminate information about needs instantly and gain a large number of Internet users' attention. In the process of help-seeking, the Internet can bring anonymity and security to the help-seeker and has the advantages of low cost and quick results. The citizens sought help on Weibo in various ways, including food, supplies, medicine, medical care, pets, and work.[4,16] During the Shanghai city closure due to the COVID-19 outbreak, social media such as Weibo provided an open environment for social interaction with the Chinese public, providing a space for online help-seeking and a potentially positive role in addressing Shanghai citizens' needs.

Some studies recognized that the pleas for help posted by Shanghai citizens on Weibo provided valuable research data for understanding the citywide lockdown's specific circumstances and potential consequences.[17] For instance, Li et al. evaluated the psychological health, loneliness, and perceived stress brought about by the lockdown by analyzing help-seeking posts published by Shanghai citizens on Weibo.[18] Zhao et al. traced the emotional changes among Shanghai citizens during the lockdown by examining their Weibo posts.[17] However, existing studies primarily focused on the psychological health of Shanghai citizens. Generally, they did not consider the material and social needs reflected in the citizens' help-seeking Weibo posts, nor the urgency of these varying needs.[19] This research gap made it difficult for policymakers and emergency responders to detect some of the urgent needs of citizens, potentially delaying the allocation of critical resources and the implementation of necessary measures. The study aims to fill this gap by conducting an in-depth analysis of the help-seeking Weibo posts published by Shanghai citizens during the lockdown, systematically categorizing the types of needs and assessing their levels of urgency, thereby offering implications for policymakers and emergency response actors in similar future scenarios.[20] The research questions are:

Q1. What main issues were citizens' seeking help with during the city closure in Shanghai? Which needs were more urgent?

Q2. From whom did they seek help? What are the characteristics in terms of expression? What are the intended beneficiaries of the help?

Q3. What are the characteristics of these help-seeking Weibo posts regarding position and emotion?

Methods

Data Collection

The lockdown of Shanghai due to the Omicron variant began on March 28, 2022, and was not lifted until April 27, 2022.[6] During this period, Shanghai residents spontaneously created the hashtag "#Shanghai Anti-epidemic Help (in Chinese: #上海抗疫求助)" on Weibo. Under this hashtag, they posted their needs and problems to attract attention and receive assistance. Therefore, this study used self-written Python code to collect Weibo posts under the hashtag "#Shanghai Anti-epidemic Help," posted from March 28 to April 27, 2022, during the Shanghai lockdown.[21,22] We collected only Weibo posts posted during the lockdown period to identify citizens' actual needs under these conditions more accurately. We initially downloaded 3618 Weibo posts, containing information about the publisher, posting time, location, and content. Then, we reviewed the content of these 3618 Weibo posts individually and manually removed those unrelated to help-seeking

Table 1. Rules of coding

Dimension	Indicators	Description
The help sought	Food	Rice, flour, bread, meat, vegetables, beef, buns, radish, etc.
	Daily necessities	Salt, soy sauce, cooking oil, cotton swabs, skin care products, stationery, toilet paper, pots, etc.
	Medications	Oral, capsules, Pfizer, Insulin, diuretics, ibuprofen tablets, antibiotics, fluoxetine, eliavirin, etc.
	COVID–19	Positive, infection, patient, medical, nucleic acid, elderly, fever, cough, etc.
	Other diseases	Heart, brain attack, cancer, gastrointestinal, toothache, UTI, blood dialysis, chemotherapy, etc.
	Mother and baby	Milk powder, maternity, diapers, supplementary, delivery, vitamin, nursing, baby wash, etc.
	Pets	Cat litter, dog food, boarding, pet sitting, deworming, dog walking, pet sickness, pet toys, etc.
	Personal freedom	Homecoming, out, cross-district, work, carpool, pass, certificate, field, etc.
	Home & community	Transfer, testing, disinfection, trash, complaints, community, property, volunteer, etc.
	Isolation	Medicine, resources, cube, isolation, meals, review, management, hygiene, etc.
	Epidemic prevention	Mask, alcohol, protective clothing, goggles, swabs, gloves, thermometer, plastic, etc.
Level of urgency	Urgent	It is very urgent, and often endangering survival or life, including requests for emergency medical assistance and critical shortages of essential supplies such as medicine and medical support. E.g., heart attacks, insulin shortages, and near depletion of food supplies at home.
	Moderate	It is moderately urgent, and may affect mental or physical health, including requests for non-emergency medical interventions and moderate shortages of essential supplies such as food and water. E.g., psychological counselling for anxiety, routine check-ups for chronic conditions, and shortages of specific food categories like vegetables or fruits.
	General	It is not very urgent, including requests for non-essential goods and services and general information inquiries. E.g., Q&A about COVID–19 knowledge, lack of entertainment materials such as books and games, and shortages of pet supplies like cat litter.
Help recipient	Internet users	Seek help from the general public, individuals, and netizens.
	Media	Seek help from *Shanghai Daily*, *People's Daily*, CCTV News, and other media.
	Government	Seek help from the Shanghai government, Shanghai CDC, and other government agencies.

(*Continued*)

Table 1. (*Continued*)

Dimension	Indicators	Description
	Community	Seek help from community (neighborhood or regional area groups on the same street), such as street offices, neighborhood committees, neighbors.
	Mixed	Seek help from multiple entities.
Intended beneficiary of the help	Oneself	Seeking help for oneself.
	One's family	Seeking help for one's family.
	Friends	Seeking help for friends.
	Community	Seeking help for the community or neighborhood.
	Strangers	Seeking help for strangers.
Expression	Publicity	Publicity (in Chinese: 发布式) means the text is just a simple publication or description.
	Context	Context (in Chinese: 背景式) means the text contains background information or reasons for some events.
	Appeal	Appeal (in Chinese: 呼吁式) means the text contains clues that mobilize or encourage others to act.
	Compare and contrast	Compare and contrast (in Chinese: 对比式) means the text compares and contrasts different events or things, highlighting a particular viewpoint.
	Question	Texts that use the question (in Chinese: 疑问式) tend to ask a question and seek answers from others.
Position	Positive	More optimistic about its situation.
	Neutral	No clear position, or no sadness or joy.
	Negative	More pessimistic about its situation.
Emotion	Surprise	Show Surprise's emotion, containing words such as surprised, amazed, astonished, etc.
	Happy	Show Happy's emotion, containing words such as cheerful, pleasure, comfortable, etc.
	Good	Show Good's emotion, containing words such as excellent, good, remarkable, etc.
	Sad	Show Sad's emotion, containing words such as sadness, grief, frustration, etc.
	Disgust	Show Disgust's emotion, containing words such as disgust, vomit, and inferior, etc.
	Fear	Show Fear's emotion, containing words such as fear, worry, trepidation, etc.
	Anger	Show Anger's emotion, containing words such as anger, rage, fury, etc.
	Other	No emotions, or expression of other emotions

(including advertisements, pure emojis, and other content not involving help requests), ultimately obtaining a valid sample of 1040 Weibo posts.

Content Analysis

This paper used content analysis to analyze the samples, and the question items and indicators were set based on the results of previous studies and the sample characteristics of this study.[23–25] Table 1 is the coding table for the content analysis, and 2 coders worked independently. Then, Scott's Pi Coefficient (π) was used for the reliability test, and the evaluation consistency between the 2 coders was high ($\pi > 0.75$).[26]

Results

The Content of Shanghai Citizens' Seeking Help (Q1)

From the coding results of the help-seeking content (Table 2), the highest number of complaints were about community, isolation, and personal freedom. Many people ($N = 362$) could not tolerate prolonged home and community confinement and believed it was unscientific to confine infected and healthy people in the same community. Weibo posts about isolation ($N = 113$) were also

numerous, with most pointing to dissatisfaction with the isolation and conditions. For example, one citizen stated, "Being in home isolation has made me feel a bit depressed and frustrated. I hope all of this ends soon."

Table 2. Coding results for the help sought

Indicators	Number (%)
Home & community	362 (34.81%)
Food	126 (12.11%)
Isolation	113 (10.86%)
Other diseases	81 (7.79%)
COVID-19	79 (7.60%)
Daily necessities	79 (7.60%)
Personal freedom	76 (7.31%)
Medications	55 (5.29%)
Pets	31 (2.98%)
Mother and baby	30 (2.88%)
Epidemic prevention	8 (0.77%)

The number of Weibo posts expressing the need for food, medicine, and medical treatment was also high. Food ($N = 126$) was in the majority, with most requests for foods such as rice, flour, fresh vegetables, and fruits. Seventy-nine Weibo posts wanted medical supplies to treat COVID-19, and 81 wanted medical support to treat or suppress other diseases. In addition, 55 Weibo posts indicated the need for pharmaceutical support, such as ibuprofen, aspirin, etc.

Some Weibo posts request help involving mothers and babies, pets, etc. Thirty Weibo posts wanted access to mother and baby supplies such as formula, diapers, sippy cups, bottles, etc. Thirty-one Weibo publishers expressed a need for pet food and medicine, along with opportunities to walk their pets. They believed that keeping pets confined at home for an extended period could make the pets depressed. One pet dog owner said, "My dog urinates in the lawn on the left side of the neighborhood every time, and now it is not allowed to go out. It keeps holding urine, and its bladder is about to explode."

From the results of coding the level of urgency (Table 3): the most significant challenge during the Shanghai closure was the lack of supplies and the health care system that was shut down due to the city lockdown.

Most help-seeking posts ($N = 528$) had a general level of urgency, and these samples were primarily complaints about community, isolation, and travel. Three hundred eighty-nine entries in the model were moderate, mainly related to food and drug shortages. A small number of help-seeking posts ($N = 123$) were urgent, and most of these requests for help were related to access to medical care, for example, cancer chemotherapy, intracranial surgery, and delivery of pregnant women.

Help-Seeking Relationships and Expressions of Shanghai Citizens (Q2)

From the coding results of whom to ask for help and for whom help was sought (Tables 4–5), we can understand the relationship among the Weibo publisher, the intended beneficiary, and the potential helper.

Most Weibo posts ($N = 583$) sought help from ordinary individuals through the Internet, viewing Weibo as a channel to maintain interpersonal support. There were 179 Weibo posts who sought help from the government to distribute more supplies, especially

Table 3. Coding results for level of urgency

Indicators	Number (%)
General	528 (50.77%)
Moderate	389 (37.40%)
Urgent	123 (11.83%)

Table 4. Coding results for help recipient

Indicators	Number (%)
Internet users	583 (56.06%)
Mixed	250 (24.04%)
Government	179 (17.21%)
Media	19 (1.83%)
Community	9 (0.86%)

Table 5. Coding results for intended beneficiary of the help

Indicators	Number (%)
Community	365 (35.10%)
One's family	287 (27.60%)
Oneself	273 (26.25%)
Strangers	64 (6.15%)
Friends	51 (4.90%)

food and medicine. A small number of Weibo posts ($N = 19$) turned to the media for help, hoping they would report on their crisis and dilemma so that more people would see their needs. A small number of Weibo posts ($N = 9$) turned to the community for help, hoping that community workers would fulfill their duty to provide each household with the necessary supplies. In addition to this, 250 Weibo posts asked for help from multiple actors. In these samples, Weibo posts that turn to the media and the community for help often also turn to the government for help. For example, a pregnant woman who was about to give birth could not reach any hospitals, so her family issued calls for help online to the local community, the district government, and the media.

Most Weibo posts sought help for themselves (i.e., the publisher themselves) ($N = 273$) and their families ($N = 287$). Those who sought help for the community ($N = 365$) did not want to be isolated or closed off. Additionally, in the initial days of the Shanghai lockdown, numerous stores were shuttered, compelling people to rely on smartphones for group shopping to procure essential food and supplies. However, some elderly and disabled individuals were unfamiliar with smartphone usage, making them unable to purchase necessities promptly. Some people noted such problems and posted Weibo posts to seek support for strangers ($N = 64$), giving a voice to the elderly and disabled who could not use smartphones. Furthermore, 51 Weibo posts asked for help for their friends. By looking at the sample, we found that most of the publishers who asked for help for their friends were not in Shanghai (e.g., a person in Beijing asking for help for their friends in Shanghai).

From the results of the coding of expression (Table 6): most of the help seekers did not use overly complex words. More direct phrases such as "publicity" ($N = 338$) and "question" ($N = 238$) were more common. There are 217 Weibo posts that use the expression "context." The Weibo posts in "question" detail the difficulties they have encountered since the closure of the city and the reasons why they had to ask for help via the Internet. There are 194 that use the expression "appeal." The relevant Weibo posts aim to call the attention of different actors to their needs and offer possible help. In addition, a small number of Weibo posts ($N = 53$) used the expression "compare and contrast." Relevant Weibo posts compare their situation to others, emphasizing the dilemmas or problem they face. For example, Some

Table 6. Coding results for expression

Indicators	Number (%)
Publicity	338 (32.50%)
Question	238 (22.88%)
Context	217 (20.87%)
Appeal	194 (18.65%)
Compare and contrast	53 (5.10%)

Table 7. Coding results for position and emotion

Dimensions	Indicators	Number (%)
Position	Negative	722 (69.42%)
	Neutral	303 (29.14%)
	Positive	15 (1.44%)
Emotion	Sad	388 (37.31%)
	Other	214 (20.58%)
	Fear	202 (19.42%)
	Anger	111 (10.67%)
	Disgust	107 (10.29%)
	Surprise	9 (0.87%)
	Good	5 (0.48%)
	Happy	4 (0.38%)

publishers compared the supplies they received with others, arguing that they received less vegetables and rice than others.

The Position and Emotion of the Help-Seeking Weibos (Q3)

From the results of the position coding (Table 7), most of the Weibo posts ($N = 722$) have a negative stance and are full of negative comments. For example, one Weibo said, "There is an old man (COVID-19 positive) who lives alone and is also a Parkinson's patient. Now for unknown reasons, older man cannot urinate and is unconscious. We are asking for an ambulance to save the old man's life." Some of the Weibo posts ($N = 303$) were of a neutral position, for example, "I would like to ask, if the grandmother in the family is antigen positive, how do I have to dispense my grandmother's medication when it is about to be cut off?" There were also very few publishers in a problematic situation, but still maintaining a positive mindset ($N = 15$). For example, one Weibo said, "I believe we can all carry through! By the way, when will Putuo District distribute the supplies? Thanks!"

From the results of the coding of emotion (Table 7): Negative emotions (e.g., Sad, Disgust, Fear, Anger, etc.) overwhelmingly outnumber positive or neutral emotions. Many Weibo posts ($N = 388$) contained sad emotions, such as, "I'm discouraged and powerless! Why did they force my grandparents to quarantine at the field hospital? They were locked up in a tiny classroom in the pod hospital with no showers or hot water! Even the washbasin and toothpaste were used by the last batch!" In addition, 202 Weibo posts expressed fear, such as, "Because my father has a basic disease, I am afraid that if he is taken to the hospital, he will be infected twice, and his condition will worsen." Many Weibo posts also expressed disgust ($N = 107$) and anger ($N = 111$) with the government, policies, communities, and community workers, blaming their work and lives for the city closure. There were a small number of Weibo posts that were surprised ($N = 9$), happy ($N = 4$), and good ($N = 5$), expressing mainly gratitude to the netizens who assisted. In addition, some Weibo posts ($N = 214$) contained multiple emotions or had an insignificant emotional profile.

Discussion

This paper uses content analysis to examine the social media (Weibo) help-seeking of Shanghai citizens during the city closure to understand the material needs and psychological state of citizens during the emergency.[9]

The study found that most public requests were not for supplies, but for complaints about community work and isolation policies. The relevant content focused on dissatisfaction with long-term home confinement and significant disagreements on how to handle COVID-19-infected individuals. Some members of the public advocated for isolating infected individuals due to concerns about the risk of coming into contact with them when going out. However, others raised objections, arguing that elderly individuals (with underlying diseases), disabled people, and children who cannot take care of themselves need proper care from the community, and taking them into quarantine would bring them closer to death. Of course, there were a few requests for food, medicine, mother-and-child supplies, etc. Requests for help related to illness often had a high degree of urgency. Among them, medical needs for primary diseases (e.g., blood pressure medications, heart disease medications, insulin, dialysis, etc.) exceeded those related to COVID-19.[27] It is evident that the impact of the city lockdown was more strongly reflected in the restriction of personal freedom for Shanghai citizens and the danger it posed to those with underlying diseases.[8] Therefore, this paper recommends that during crises such as city lockdowns, in addition to providing material resources, the government and relevant agencies should strengthen communication with citizens, particularly by addressing dissatisfaction with policy implementation promptly. Such 2-way communication helps alleviate public discontent and allows the government and emergency management departments to adjust policies better, ensuring a more humane approach to risk management.

Most of the Weibo posts are seeking help from netizens, and few are seeking help from the government or others. It can be seen that the help-seeking relationship is complex, and many help-seekers do not know whom to turn to, so they send requests to both the government and netizens at the same time.[28] They are desperate for their needs to be noticed and for someone to help them in real-world situations. Over half of the Weibo posts are asking for help for themselves, their friends, or their families; 35.10% are asking for help for their community, and 6.15% are asking for help for strangers. There are also urgent requests (e.g., sudden illness requiring medical attention, pregnant women giving birth, food shortages, etc.) where the individual is unable or uncomfortable going online, and often friends, family, or Internet users post the request on their behalf. These phenomena reflect the helplessness and complex emotions of citizens when facing emergencies. Many are unsure who to seek help from, leading them to request assistance from multiple sources. This paper argues that emergency managers should ensure the diversity of information access and help-seeking pathways available to citizens when formulating policies, such as establishing more efficient official help-seeking platforms.

Overall, most of the Weibo posts reflect a negative or neutral stance. Weibo users seeking help express emotions such as sadness, disgust, fear, anger, and other related feelings. On the one hand, they are dissatisfied with the actions of the community.[29] They believe that the lockdown action has negatively impacted their work and life. Some also doubt the effectiveness of the lockdown and believe that it has failed to curb the spread of COVID-19. On the other hand, they express dissatisfaction with their living conditions and concern for their and their family's mental health after experiencing prolonged home quarantine. Multiple studies have examined and confirmed that prolonged isolation and solitude may harm mental health.[30] In this study, some netizens also expressed that long-term home

quarantine has severely impacted their mental health. Policymakers and crisis responders should be alert to the fact that chronic social isolation caused by COVID-19 can lead to feelings of loneliness.[31]

Limitations

This paper has several limitations. Firstly, the samples in this paper are all from Weibo, which may not represent all Shanghai residents. In future research, we need to expand the sample sources, for example, by adding interviews with older citizens or those without Internet access. Secondly, content analysis was used to identify the content, expressions, and other aspects of Shanghai citizens' help-seeking behavior. While the coding options covered most of the sample well, further refinement of the coding rules is necessary. Finally, the study focused on the content of Weibo posts throughout the entire event without examining changes in Weibo posts over time. Our sample size was 1040, which is moderate. During the study, we attempted to analyze the variation in coding results over time. However, due to the limitation of the sample size, we did not find significant associations between the coding results and time. In future studies, we will address the acknowledged limitations by expanding the sample size, conducting longitudinal studies, comparing multiple events, and exploring help-seeking behaviors across different social media platforms to improve research methods.

Conclusions

This paper examines the public's online help-seeking during the city closure in Shanghai across 7 dimensions: the help sought, level of urgency, help recipient, the intended beneficiary of the help, expression, position, and emotion. The study found that personal freedom, food, and medical care were the most frequently sought forms of help, and most of the public's positions and emotions were pessimistic. The long-term home isolation and city closure caused the public to suffer various adverse physical and mental health effects.

This paper's findings reveal the public's needs and status during the city closure. They provide a reference for emergency preparedness in public health events or emergencies. Shanghai's experience can also serve as an inspiration for countries worldwide to develop appropriate policies and respond effectively when dealing with emergencies.[18]

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References

1. **Sun Y**, **Li X**, **Guo D.** COVID-19 vaccine hesitancy in China: an analysis of reasons through mixed methods. *Vaccines.* 2023;**11**(3):712. doi: 10.3390/vaccines11030712

2. **Tian D**, **Sun Y**, **Xu H**, et al. The emergence and epidemic characteristics of the highly mutated SARS-CoV-2 Omicron variant. *J Med Virol.* 2022;**94**(6):2376–2383. doi: 10.1002/jmv.27643

3. **Mohapatra RK**, **Kandi V**, **Verma S**, et al. Challenges of the Omicron (B.1.1.529) variant and its lineages: A Global Perspective. *Chembiochem.* 2022;**23**(9):e202200059. doi: 10.1002/cbic.202200059

4. **Chen Z**, **Deng X**, **Fang L**, et al. Epidemiological characteristics and transmission dynamics of the outbreak caused by the SARS-CoV-2 Omicron variant in Shanghai, China: a descriptive study. *Lancet Reg Health West Pac.* 2022;**29**:100592. doi: 10.1016/j.lanwpc.2022.100592

5. **Cai J**, **Deng X**, **Yang J**, et al. Modeling transmission of SARS-CoV-2 Omicron in China. *Nat Med.* 2022;**28**(7):1468–1475. doi: 10.1038/s41591-022-01855-7

6. **Nam BH**, **Weber HL**, **Liu Y**, et al. The "Myth of Zero-COVID" Nation: A Digital Ethnography of Expats' Survival Amid Shanghai Lockdown during the Omicron Variant Outbreak. *Int J Environ Res Public Health.* 2022;**19**(15):9047. doi: 10.3390/ijerph19159047

7. **Xu J**, **Guo D**, **Xu J**, et al. How do multiple actors conduct science communication about Omicron on Weibo: a mixed-method study. *Media Commun.* 2023;**11**(1):306–322. doi: 10.17645/mac.v11i1.6122

8. **Xu Z**, **Lu H**, **Zhou J**, et al. Implementation of emergency general practitioner management of patients during the complete lockdown consequent to the COVID-19 Omicron outbreak in Shanghai. *Aust J Gen Pract.* 2022;**51**:10.31128/AJGP-COVID-51-5. doi: 10.31128/AJGP-COVID-51-5

9. **Hall BJ**, **Li G**, **Chen W**, et al. Prevalence of depression, anxiety, and suicidal ideation during the Shanghai 2022 lockdown: a cross-sectional study. *J Affect Disord.* 2023;**330**:283–290. doi: 10.1016/j.jad.2023.02.121

10. **Xia M**, **Ma S**, **Huang Q**, et al. NAFLD-related gene polymorphisms and all-cause and cause-specific mortality in an Asian population: the Shanghai Changfeng Study. *Aliment Pharmacol Ther.* 2022;**55**(6):705–721. doi: 10.1111/apt.16772

11. **Zhang X**, **Zhang W**, **Chen S.** Shanghai's life-saving efforts against the current Omicron wave of the COVID-19 pandemic. *Lancet.* 2022;**399**(10340):2011–2012. doi: 10.1016/S0140-6736(22)00838-8

12. **Dong C**, **Pan Y**, **Zhou Q.** Chinese industries under the impact of pandemic lock-down policies: a comparison event study on Wuhan and Shanghai. Atlantis Press. Published 2022. Accessed June 6, 2023. https://www.atlantis-press.com/proceedings/icedbc-22/125983542

13. **Liu X**, **Wu J**, **Yang H**, et al. Caregiver perceptions of children's and adolescents' psychosocial functioning during the stringent COVID-19 lockdown restrictions in Shanghai: cross-sectional study. *JMIR Public Health Surveill.* 2023;**9**:e43689. doi: 10.2196/43689

14. **Sina Technology**. Weibo "fight epidemic": the value of social media is irreplaceable. *Cited September* **2**, 2022. Accessed June 6, 2023. https://tech.sina.com.cn/i/2020-02-21/doc-iimxxstf3280903.shtml

15. **Guo D**, **Wang H**, **Xu J.** Contextualization: a path to Chinese traditional news media's integration into social media. *Media Commun.* 2024;**12**:1–16. doi: 10.17645/mac.7429

16. **Yang W**, **Wu Z**, **Mok NY**, et al. How to save lives with microblogs? lessons from the usage of Weibo for requests for medical assistance during COVID-19. *Association for Computing Machinery.* Published 2022. Accessed June 6, 2023. https://dl.acm.org/doi/abs/10.1145/3491102.3517591

17. **Zhou B**, **Zou L**, **Yang M**, et al. (2024). Overlooked voices under strict lockdown: mapping humanitarian needs in 2022 Shanghai COVID-19 outbreak. *Geogr Inform Sci.* 2024;**51**(3):347–365. doi: 10.1080/15230406.2024.2314547

18. **Li R**, **Huang C**, **Guan B**, et al. The negative impact of loneliness and perceived stress on mental health during two-month lockdown in Shanghai. *J Affect Disord.* 2023;**335**:377–382. doi: 10.1016/j.jad.2023.05.055

19. **Yonemoto N**, **Kawashima Y.** Help-seeking behaviors for mental health problems during the COVID-19 pandemic: a systematic review. *J Affect Disord.* 2023;**323**:85–100. doi: 10.1016/j.jad.2022.11.043

20. **Ogrodniczuk JS**, **Rice SM**, **Kealy D**, et al. Psychosocial impact of the COVID-19 pandemic: a cross-sectional study of online help-seeking Canadian men. *Postgrad Med.* 2021;**133**(7):750–759. doi: 10.1080/00325481.2021.1873027

21. **Gao H**, **Guo D**, **Wu J**, et al. Weibo users' emotion and sentiment orientation in Traditional Chinese Medicine (TCM) during the COVID-19 pandemic. *Public Health Prep.* 2022;**16**(5):1835–1838. doi: 10.1017/dmp.2021.259

22. **Zhu Y**, **Li X**, **Wang J.** Analysis and research of Weibo public opinion based on text. *J Phys Conf Ser.* 2021;**1769**(1):012018. doi: 10.1088/1742-6596/1769/1/012018

23. **Shi H.** Compatibilities and challenges of crisis management in China—an empirical study of Shanghai lockdown. *University of Chicago.* Published 2022. Accessed June 6, 2023. https://knowledge.uchicago.edu/record/4078

24. **Tosatto J**, **Cox J**, **Nguyen T.** With a little help from my friends: the role of online creator-fan communication channels in the success of creative crowdfunding campaigns. *Comput Human Behav.* 2022;**127**:107005. doi: 10.1016/j.chb.2021.107005

25. **Ybarra ML**, **Suman M.** Help seeking behavior and the Internet: a national survey. *Int J Med Inform.* 2006;**75**(1):29–41. doi: 10.1016/j.ijmedinf.2005.07.029

26. **Hayes AF**, **Krippendorff K.** Answering the call for a standard reliability measure for coding data. *Commun Methods Meas.* 2007;**1**(1):77–89. doi: 10.1080/19312450709336664

27. **Zhou FY**, **Li C**, **Qin KZ**, et al. Delivery and neonatal outcomes of pregnant women during the Shanghai lockdown: a retrospective analysis. *Front Pediatr.* 2023;**11**:992908. doi: 10.3389/fped.2023.992908

28. **Su Y**, **Jin J**, **Zhu L**, et al. Emerging psychological crisis issues during lockdown in Shanghai. *Lancet Reg Health West Pac.* 2022;**25**:100536. doi: 10.1016/j.lanwpc.2022.100536

29. **Wu J**, **Yang H**, **Qin Y**, et al. Change of daily life and depression among adults under stringent lockdown restrictions during COVID-19 pandemic in Shanghai, China. *Asian J Psychiatr.* 2023;**79**:103327. doi: 10.1016/j.ajp.2022.103327

30. **Saltzman LY**, **Hansel TC**, **Bordnick PS**. Loneliness, isolation, and social support factors in post-COVID-19 mental health. *Psychol Trauma.* 2022;**12** (S1):S55. doi: 10.1037/tra0000703

31. **Killgore WD**, **Cloonan SA**, **Taylor EC**, et al. Loneliness: a signature mental health concern in the era of COVID-19. *Psychiatry Res.* 2022;**290**:113117. doi: 10.1016/j.psychres.2020.113117