Empathy Not Quarantined: Social Support via Social Media Helps Maintain Empathy During the COVID-19 Pandemic

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Abstract
The Covid pandemic had turned the world upside down, but not much is known about how people’s empathy toward others in difficult situations might be affected by the pandemic. Based on a nationally representative sample (N=943) from China, this study first let participants read three real scenarios and then measured: (1) how empathy toward others might be influenced by the perceived social support people obtained by using social media (i.e., WeChat); and (2) how different demographics such as age and gender as well as lockdown situations may affect preserving empathetic during the Covid outbreak. Results show that perceived social support via WeChat not only positively impacted empathy but also interacted with anxiety in influencing the degree to which participants could maintain empathy toward others. Those living in cities or towns with higher incomes were more empathetic to others. While anxiety does not necessarily decrease empathy, those who reported gaining more social support on social media showed more empathy toward others despite their elevated levels of anxiety. Age negatively predicted empathy, but gender and lockdown conditions did not impact empathy. This study contributes to the literature by identifying the critical role empathy plays in people’s affective response to others during a public health crisis.

Keywords
social support, social media, empathy, anxiety, Covid, WeChat

Introduction
The Covid pandemic had turned the world upside down for almost everyone since its first outbreak in China in December 2019. As Covid cases across the globe hit nearly 270 million with more than 5 million deaths (Centers for Disease Control and Prevention [CDC], 2021), considerable research has been devoted to studying the association between the traumatic experiences triggered by the pandemic and emotional harms such as anxiety, depression, and trauma (Arendt et al., 2020; Wu et al., 2021). The prevalence of emotional toll and mental health disorders in the health crisis was identified in general populations who had no psychiatric disorder history nor being infected with coronavirus (Zhong, Huang, et al., 2020). But little is known about how people’s empathy—“the natural capacity to share, understand and respond with care to the affective states of others” (Decety, 2014, p. vii)—may be shaped by the dire consequences of the pandemic.

While people can be inspired to help each other in difficult situations (Kristeller & Johnson, 2005; L. Wei & Liu, 2021), a vexing question that remains unanswered is how the pandemic experiences may alter people’s empathy for others. To fill the gap, this study aims to explore how the social support people obtained on social media may directly or indirectly influence their empathy toward others who were experiencing hardships in the pandemic. It also investigates any possible effects of various demographics (e.g., age, gender, income level, geolocation, and lockdown conditions) on people’s empathy toward others.
The findings should contribute to understanding how people might collectively preserve resilience as part of their emotional response toward health crises.

**Theoretical Foundation**

**Empathy and Anxiety in Public Health Crises**

Empathy refers to “an induction process that reflects an innate ability to perceive and be sensitive to the emotional states of others” (Decety et al., 2016, p. 2). It is shared by both humans and other mammals, which entails two key aspects—“the sharing of emotions and the adoption of another’s viewpoint” (de Waaij, 2014, p. 87). Prior research has found many benefits of empathy both to individuals and to societies. At the individual level, empathy as “an affective response stemming from an understanding or apprehension of another’s emotional state or condition” (Eisenberg et al., 2014, p. 147) has been identified as a positive predictor of individual life satisfaction (Morelli et al., 2015) and well-being (M. Wei et al., 2011). Higher levels of empathy can help individuals better appreciate others’ personal distress (Batson, 2019), while chronic stress can negatively impact individuals’ health, causing biological aging and oxidative damage (Aschbacher et al., 2013). When receiving empathy from others, individuals often experience gratitude and a sense of inclusion and belonging (Bodaglia et al., 2016). For those who are empathetic to others, their well-being may be enhanced as they realize the positive impact of their kindness on others (M. Wei et al., 2011).

At the societal level, empathy has been highlighted as an essential fabric to a civil society with collective resilience (de Waaij, 2009), especially in traumatic events (Afroogh et al., 2021; Taylor et al., 2020) due to the well-established corresponding relationship between empathy and prosocial behaviors (Bohns & Flynn, 2021). High empathy levels, for instance, could positively predict altruistic responses and prosocial behaviors to others, which in turn foster prosocial moral reasoning (Paciello et al., 2013). The ability to empathize can motivate one to show kindness and prosocial behavior (Goodhew & Edwards, 2021), while disruption of the ability to process others’ distress cues may lead to callous disregard for others’ adversities (Decety et al., 2016). Thus, based on the literature (Decety, 2014; Decety et al., 2016), we define empathy as the capability of recognizing, understanding, and sharing the experiences, thoughts, and emotions of others who are in certain dire situations. The empathy people develop toward others often stimulates prosocial behaviors that come from within, rather than being forced.

The unprecedented Covid pandemic has created waves of turbulence to the globe, taking millions of lives and leaving countless hospitalized. While it has exposed the entire world to various distresses, arguably the most notable one at the early outbreak stage is anxiety—a future-oriented mood state associated with preparation for possible, upcoming negative events (Barlow, 2004)—due to rapidly accumulated death numbers (Faust & del Rio, 2020) yet almost no prior knowledge of the coronavirus (Petzold et al., 2020). There is a negative correlation between empathy and anxiety in the experience of distress (Burnette et al., 2009). The enactment of anxiety invokes a sense of insecurity, uncertainty, and lack of control among individuals, which could decrease their happiness and well-being (Eysenck et al., 2007). More importantly, death-related anxiety is likely to suppress empathy toward others as individuals lose the sense of control and security of themselves (Garbay et al., 2015). This negative association between anxiety and empathy has also been supported in the medical field. For instance, people with greater death anxiety have significantly lower empathy as opposed to those who are less anxious (Thiemann et al., 2014). Therefore, we predict:

**H1.** Pandemic-induced anxiety decreases individual empathy toward others during the Covid pandemic.

Considering empathy as the human ability to perceive and be sensitive to specific emotional stresses and physical suffering others experienced in painful pandemic situations, we argue that individuals’ empathy could be shaped up by a number of internal or external factors, such as age, gender, educational background, and environmental context (Giordano et al., 2014). A range of factors could determine the likelihood of engaging in empathy, which can be generally classified as either internal or external psychological factors according to the attribution theory (Heider, 1958). Internal factors refer to some more enduring internal attributions, rather than situational outside forces, of a person, including age, gender, and social status. External factors can be situational attributions outside a person’s control. During this health crisis, the external factors may include the pandemic circumstances like lockdown duration and quarantine conditions, known cases of quarantine, infection, and death cases. The presence or absence of these factors functions to either motivate or restrain one’s empathy-related thoughts and behaviors.

One’s empathy response also varies based upon the individual who is being empathized with, which can vary by closeness, social status, and group membership of the other (Stevens & Taber, 2021). Thus, people tend to show more empathy to those who have the same or similar social status as they have a better understanding of others’ hardships and associated feelings. One way to measure the impact of social status on empathy during the pandemic is by comparing the income levels. During this health crisis, the external factors may include the pandemic circumstances like lockdown duration and quarantine conditions, known cases of quarantine, infection, and death cases. As such, we ask:

**RQ1.** How will age, gender, income level, and geolocation affect individuals’ empathy during the Covid outbreak?

**RQ2.** How will lockdown conditions impact individuals’ empathy during the Covid outbreak?
**Empathy and Perceived Social Support**

The supportive communication literature has underlined the benefits of social support—“information leading the subject to believe that he is cared for and loved, esteemed and a member of a network of mutual obligations” (Cobb, 1976, p. 300)—to individuals (Pascoe & Richman, 2009) and, ultimately, societies (Berkman & Glass, 2000). A meta-analysis has demonstrated that the advantages of social support are not tied to the actual receipt of it. Rather, the perception of being supported or having the access to social support will significantly benefit individuals (Haber et al., 2007). Thus, perceived social support has been found a positive contributor to collective resilience, especially in public crises. It is well supported that social support not only enhances individual resilience (Afroogh et al., 2021; Taylor et al., 2020) but also helps individuals to remain empathetic to each other in difficult times (Park et al., 2015).

Analog to stimuli and responses, stress is our psychological and biological reactions (responses) to potential stressors (stimuli)—demanding, challenging events, or circumstances that may stimulate stress (Wheaton & Montazer, 2010). When individuals become overwhelmed by stressors (e.g., health crises) and fail to effectively manage their reactions to them, they develop distress (Kupriyanov & Zhdanov, 2014), such as depression and anxiety that are detrimental to both physical and psychological health (Rehman et al., 2021). But they could also run into maladaptive outcomes that are harmful to others, including empathy loss and even aggression (Smith, 2007). Meanwhile, anxiety, a notable distress in the early Covid stage, can significantly suppress empathy toward others as individuals lose the sense of control and security of themselves (Garbay et al., 2015; Thiemann et al., 2014). Social support, in this case, can uphold individuals’ empathy by increasing their resilience via two mechanisms.

One mechanism resides in the “main effect” of social support that operationalizes social support as the degree to which one is integrated into a variety of social relationships like friendships, partnerships, and marriages (Cohen & Janicki-Deverts, 2009). Greater social integration affords individuals more opportunities to obtain social support as they connect to a wide range of individuals, whether it is informational, emotional, or tangible. First, informational support is the provision of advice, suggestions, or guidance to individuals in need (Berkman & Glass, 2000). Second, emotional support is the type of social support in the form of affectionate expressions such as encouragement, compassion, and comfort. It is regularly exchanged in the online environment, which proves to be particularly valuable to those who are marginalized like patients with HIV/AIDS (Bar-Lev, 2008).

Under the interpersonal and computer-mediated contexts, emotional support and informational support are among the most commonly reported types of support provided or received by people with medical conditions like cancer patients (Bol et al., 2021) or facing the Covid risks (Zhong, Huang, et al., 2020). However, the two types of support can be related to each other. When people receive more information and gain a stronger sense of informational support, they tend to perceive more emotional support from the providers of information (Zhao et al., 2021). Those who offer more emotional support to others are more likely to keep providing information, which is perceiving offering others more informational support as a result (Chung et al., 2021). Third, social connections offer people various tangible resources like financial aids, shelter, and so on. (Coffman, 2008). Although tangible support is less observed in the online world due to its nature and the constraints of computer-mediated communication (e.g., privacy issues), the perception of having more potential tangible support can effectively maintain resilience by preventing the despair of social isolation and enhancing the sense of belonging and community (Stokes, 2020). Thus, even when individuals do not have outstanding stress, social support can still act as a protective and nurturing environment that helps them maintain a strong sense of security and, subsequently, sensitivity to and caring about others’ hardships.

The second camp of social support scholarship focuses on the social support role in the event of distress. Social support can serve as a buffer in the appraisal of stress (Brock & Lawrence, 2010). The buffering effect of social support against anxiety in the event of stressful incidents could explain why individuals who lacked social support were at a higher risk of health issues (Zhong, Wang, et al., 2021). When individuals perceive sufficient social support from others, they are less likely to perceive stressors as frustrating or demanding. Social support from others helps people better adjust to stressful events without suffering from maladaptation like depression (Coffman, 2008), anxiety (Gruenewald & Seeman, 2010), and aggression (Felson, 1992), all of which can ultimately deteriorate individuals’ ability to empathize with others (Garbay et al., 2015).

**Social Support on Social Media**

With the proliferation of computer-mediated technology, online social support has received growing scholarly attention (Walther & Boyd, 2002). In contrast to face-to-face communication, computer-mediated technologies can bring people of similar stressful experiences together and offer them a strong sense of community (Chung, 2014) and anonymity that is crucial to marginalized populations (Yang et al., 2018). Despite the demonstrated benefits of social support in public health crises (Roy, 2011), more work is needed to understand the relations between the perceived social support obtained via social media and empathy in a health crisis context.

The pandemic, if anything, has rendered us rely more on the internet during quarantines and social distancing. In pandemics, social media played an indispensable role in helping
individuals seek information and maintain social connections with each other (Chan et al., 2020; Fung et al., 2016). Social media, on the one hand, afforded individuals access to information on preventive behaviors in the pandemic (Li & Liu, 2020), and, on the other, opportunities to stay connected with others (Drouin et al., 2020), thereby increasing their chances of getting social support from others (Lisitsa et al., 2020).

H2. Perceived social support obtained via social media increases empathy for others during the Covid pandemic.

H3. Perceived social support gained via social media buffers individuals’ pandemic-induced anxiety and helps maintain empathy to others.

Method

Research Procedure

A marketing research company helped recruit a national representative sample for this research by using the quota sampling method. More than 4,000 questionnaires were distributed, and 943 participants completed the online survey experiment in February 2020, who came from 30 provinces across China. Each participant received a nominal compensation of ¥10 or US $1.34. The current quota sample was collected to mirror the Chinese national population (National Bureau of Statistics of China [NBSC], 2013), except gender. An invitation link to the study was sent out to potential participants based on a national database of consumers maintained by the company. Upon clicking the link, participants were directed to the stimuli. As empathy is generally considered a socially desirable individual quality (Kämpfe et al., 2009), directly asking individuals’ self-reported responses will likely run into the issue of social desirability, that is, respondents intentionally answer in a way that will present them socially favorable (Phillips & Clancy, 1972). We, therefore, designed different scenarios based on real news stories in the early stage of the Covid outbreak in China to measure individual empathy.

The Stimuli

Three scenarios that actually happened in China were adopted to be the stimuli after removing the victims’ names and geolocations to minimize possible proximity effects, which exert a reliable influence on information processing (Zhong & Appelman, 2014). They had attracted heated public discussion on Chinese social media such as Weibo during the pandemic but were not covered by traditional news media in China. All of the three scenarios were edited to make them consistent in terms of tones, length, and details in which the location was removed to avoid possible proximity biases. The length of Scenarios I and III is the same—74 words, and Scenario II has 71 words. Each of them contains a similar number of details without subjective or emotional words. Participants first report their demographics, including age, gender, residence, income levels, and social support received via social media. They then read all three scenarios in random orders and reported their empathy after reading each of the scenarios.

Scenario I described urban workers’ losses during the epidemic, measuring the participants’ empathy toward low-income urban groups. The exact wording of Scenario I is,

Due to the Covid outbreak, many low-income workers—migrant workers, street vendors, food stalls, porters, and other temporary workers—are either laid off or underpaid. As business took a heavy hit by the coronavirus crisis, they have much less work or no work, making it challenging to support their families. One day out of work means one day without income. This becomes more difficult for those low-income families with sick elderly and/or small children.

Scenario II was about small business owners who belonged to mid-income urban groups. It reads,

The widespread bankruptcy outlook of small business owners in cities comes close due to massive economic loss. While these businesses have been shut down with severely reduced or no revenues, they still have to pay for costs and expenses such as rentals and employee benefits. If the coronavirus outbreak cannot be brought under control soon, corporate bankruptcy is unavoidable, bringing a domino effect of serious hardships to many people’s everyday lives.

Scenario III tested the empathy toward farmers whose income level was the lowest compared to those in Scenarios I or II. It reads,

We chose the three scenarios by income level as Covid has posed such an unprecedented economic loss across all countries, especially to individuals of lower socioeconomic statuses who need social support and empathy the most (Borio, 2020).

Independent Variables

Anxiety. Seven items from the Depression Anxiety Stress Scale (Lovibond & Lovibond, 1995) were used to measure anxiety associated with the pandemic. Participants rated the items on 4-point scale (0=“Did not apply to me at all” and
experiences” (Cronbach’s $\alpha = .89$, $M = 3.43$, $SD = .75$).

**Dependent Variable**

**Empathy.** The construct measuring people’s empathy during China’s Covid pandemic was self-made based on two studies (Garton & Gringart, 2005; Spreng et al., 2009). There is no existing scale measuring empathy during a global disaster like the current public health crisis, which can be quite different from adults’ basic empathy tendency in an everyday situation. Rather than using the Basic Empathy Scale in Adults (Carré et al., 2013), we first studied how empathy is measured in natural or human-made disasters and avoid items measuring empathy induced by torture, punishment, or inhuman treatment (see Spreng et al., 2009). Considering the real scenarios used as the stimuli, we measure possible empathy induced by misery or hardships people experienced during the pandemic. Thus, after reading each scenario, participants were asked to rate their agreement on a 5-point scale (0 = “Strongly disagree” and 5 = “Strongly agree”) with the three statements: “The distress they had due to the pandemic makes me feel empathy with them”; “The suffering of others like this deeply disturbs me”; and “I want to help those who had encountered such misery as I feel sorrow for their experiences” (Cronbach’s $\alpha = .80$, $M = 3.63$, $SD = .73$).

**Results**

**Sample Demographics**

The sample ($N=943$) had an average age of 35.76 ($SD = 9.97$). More than one-third of them ($n = 350$, or 37.11%) reported having low income, 531, or 56.31%, middle income, and 62, or 6.57%, high income. Most of them ($n = 642$, or 68.08%) resided in big cities such as Beijing, Shanghai, or Wuhan, 196, or 20.78%, lived in small cities or towns, and 105, or 11.13%, in rural areas. Gender was the only demographic in the sample that was inconsistent with the national population as it had 545 females, or 57.79%, and 398 males, or 42.21%. Most of the participants ($n = 735$, or 67.34%) reported frequent or very frequent WeChat use for epidemic-related information, 184, or 19.51%, of the participants sometimes used it for the same purpose, but 124, or 13.14%, almost never or rarely used WeChat for accessing epidemic information. When the survey was conducted, all the participants were living under a lockdown condition. Among them, 523, or 55.46%, of the participants had lived in lockdown for 1–2 weeks, 317, or 33.62% for 3–4 weeks, 64, or 6.78%, for 5–6 weeks. In all, 39, or 4.14%, of them have been through lockdown for 7 weeks or longer.

**Social Support and Empathy**

Across the three scenarios, participants reported significantly greater empathy toward low-income urban workers ($M = 3.63$, $SD = .73$) in Scenario I and farmers ($M = 3.59$, $SD = .72$) in Scenario III than for small business owners ($M = 3.44$, $SD = .74$) in Scenario II. No significant difference in empathy was found between Scenarios I and III, Wilks’s $\Lambda = .90$, $F(2, 941) = 52.61$, $p < .001$, partial $\eta^2 = .10$. Hierarchical regressions were utilized to examine the impact of pandemic-induced anxiety and social support perceived on social media on empathy for the three scenarios separately. For all three scenarios, the same procedure was performed: In the first step, the zero-order terms of anxiety and social support were first entered, followed by the interaction term of the two variables in step 2. All variables were standardized prior to entering the hierarchical regression.

**Scenario I.** Hierarchical regression was conducted to examine the impact of social support participants perceived on social media and pandemic-induced anxiety on empathy for low-income urban workers. Together, anxiety and social support predicted a significant portion of variance in empathy, $F(3, 939) = 33.46$, $p < .001$, adjusted $R^2 = .09$. Table I reports all statistics associated with the hierarchical regression analysis.

H1 asked about the impact of pandemic-induced anxiety on empathy. The analysis did not detect a significant main effect of anxiety on empathy, $\beta = .03$, $p = .33$. However, RQ2 was supported: Social support obtained by using social media
enhanced empathy, $\beta = .30, p < .001$. The main effect for anxiety and social support should be interpreted in light of a significant Anxiety \times Social Support interaction being obtained, $\beta = .08, p = .010$. Therefore, social support interacted with anxiety in influencing participants’ empathy.

To probe the interaction of anxiety and perceived social support in affecting empathy, a simple slope analysis was conducted at ±1 SD of the mean of social support using Process Macros with the Johnson-Neyman technique (Hayes, 2018).

The analysis revealed that when obtaining more social support on social media, participants’ empathy did not vary significantly as anxiety increased, $b = -.06, SE = .05$, lower limit confidence interval (LLCI) = −.15, upper limit confidence interval (ULCI) = .03, $p = .20$. However, when perceiving higher levels of social support, participants’ empathy significantly increased as their anxiety levels intensified, $b = .09, SE = .04$, LLCI = .02, ULCI = .17, $p = .019$ (Figure 1).

**Scenario II.** Similar to Scenario I, the model accounts for a significant portion of variance of empathy, $F(3, 939) = 32.77$, $p < .001$, adjusted $R^2 = .09$. As shown in Table 1, similar to the findings of Scenario I, this analysis revealed a non-significant main effect of anxiety on empathy, $\beta = .02, p = .61$. Yet the social support, consistent with Scenario I, significantly enhanced participants’ empathy during the outbreak, $\beta = .30, p < .001$. However, the main effect for anxiety and social support should also be interpreted in light of a significant Anxiety \times Social Support interaction that was also obtained, $\beta = .07, p = .033$. A simple slope analysis was conducted at ±1 SD of the mean of social support to probe the impact of anxiety and perceived social support on empathy. This analysis indicated a similar pattern as suggested in Scenario I. With low levels of social support, participants’ empathy decreased as they got more anxious (though not statistically significant), $b = -.06, SE = .05$, LLCI = −.15, ULCI = .03, $p = .21$. With higher levels of social support, participants’ empathy grew along with their anxiety levels, although only to a marginally significant degree, $b = .07, SE = .04$, LLCI = −.01, ULCI = .15, $p = .086$ (Figure 2).

**Scenario III.** Similar to Scenarios I and II, the model accounts for a significant portion of variance of empathy, $F(3, 939) = 29.05$, $p < .001$, adjusted $R^2 = .08$ (Table 1). Similar to the findings of Scenario I, there was a

![Figure 1](image-url)
nonsignificant main effect of anxiety on empathy, $\beta = .01$, $p = .86$. Yet social support significantly increased participants’ empathy to farmers, $\beta = .29$, $p < .001$, which is consistent with Scenario I. Unlike Scenarios I and II, this analysis failed to obtain a significant Anxiety × WeChat social support interaction on empathy toward farmers in Scenario III. To sum up, H2 and H3 were supported but H1 was not.

**Demographics and Pandemic Situations**

RQ1 asks how some demographics might impact individuals’ empathy toward those facing life challenges during the Covid outbreaks. Our analyses revealed that age negatively predicted empathy for Scenario I, $\beta = -.08$, $p = .018$, and Scenario III, $\beta = -.08$, $p = .009$, but it failed to predict empathy for Scenario II, $\beta = -.03$, $p = .40$. The older the participants, the less empathetic they were toward those low-income families and farmers who were going to take a great hit from the pandemic in Scenarios I and III, respectively. However, their empathy did not vary by age for those small business owners in Scenario II. Gender was not found to affect empathy, $t(941) = -1.32$, $p = .19$ for Scenario I, $t(941) = -1.46$, $p = .15$ for Scenario II, and $t(941) = -1.44$, $p = .15$ for Scenario III, suggesting that both male and female participants exhibited similar empathy for others.

Analyses of variance (ANOVAs) identified participants’ family income as a significant predictor of empathy for Scenario III, $F(2, 940) = 8.10$, $p < .001$, but not for Scenario I, $F(2, 940) = 2.14$, $p = .12$, or Scenario II, $F(2, 940) = 2.93$, $p = .06$. As shown in Table 2, participants with low income showed empathy ($M = 3.48$, $SD = .72$) toward farmers in Scenario III significantly lower than those with medium ($M = 3.66$, $SD = .70$) or high income ($M = 3.73$, $SD = .79$).

![Figure 2. Interaction of anxiety and social support on empathy: empathy toward mid-income groups—small business owners (Scenario II).](image)

| Scenario | Low Income | Medium Income | High Income |
|----------|------------|---------------|-------------|
| Scenario I | 3.57 | 3.65 | 3.75 |
| Scenario II | 3.38 | 3.46 | 3.59 |
| Scenario III | 3.48<sup>a</sup> | 3.66<sup>b</sup> | 3.73<sup>b</sup> |
| Big Cities | 3.65 | 3.59 | 3.57 |
| Small Cities or Towns | 3.47 | 3.40 | 3.35 |
| Rural Areas | 3.63<sup>b</sup> | 3.57<sup>b</sup> | 3.42<sup>b</sup> |

Note: Means that do not share the same superscripts differ at $p < .05$.

Table 2. The Effects of Pandemic Situations on Empathy.

Three one-way ANOVAs were then performed to examine whether participants’ geolocation affected their empathy in the three scenarios. Geolocation emerged as a significant predictor of empathy for Scenario III, $F(2, 940) = 4.03$, $p = .018$, but not for Scenario I, $F(2, 940) = .81$, $p = .45$, or Scenario II, $F(2, 940) = 1.46$, $p = .23$. As Table 2 shows, participants living in rural areas showed significantly lower empathy ($M = 3.42$, $SD = .75$) toward farmers in Scenario III.
than those from small cities or towns ($M=3.57$, $SD=.68$) or large cities ($M=3.63$, $SD=.72$).

RQ2 asks how lockdown conditions might impact empathy. ANOVA did not detect the effect of quarantine conditions on empathy, which were measured by how many cases of quarantine, infection, and deaths in family members, friends, and colleagues they knew of. Another set of ANOVAs show that lockdown conditions were not a significant predictor of the participants’ empathy in Scenario I, $F(3, 939)=.21$, $p=.89$, Scenario II, $F(3, 939)=.18$, $p=.91$, or Scenario III, $F(3, 939)=1.41$, $p=.24$.

**Discussion**

It is important to study empathy in a pandemic environment as it is associated with human satisfaction of interpersonal relations, moral behaviors, and even mental health conditions (Ma & Wang, 2021). This study may be one of the first that investigated how people’s empathy may be altered by the detrimental consequences of the Covid pandemic. It first let the participants read three scenarios about people’s hardship caused by the pandemic, who had different social statuses (i.e., farmers living in the rural areas, low-income workers, and small business owners in cities). Then it measured the participants’ anxiety levels and how their empathy for others in need might be affected by the perceived social support they obtained by processing social media information and pandemic situations they lived in. The participants took part in this research in February 2020, the peak time of the Covid epidemic in China. But the health crisis had not yet spiraled into a pandemic around the rest of the world, which made those who first experienced the unprecedented disease extremely worried, stressful, lonely, and even traumatized (Zhong, Jiang, et al., 2020). The results discovered that anxiety played a role in shaping empathy, which was also influenced by some demographic variables, such as age, gender, income, and geolocation.

Generally, the findings show that individual empathy toward farmers, low-income workers, and small business owners did not vary by gender as both males and females had similar empathy for others during the pandemic. However, those who were younger tended to be more sympathetic to low-income families and farmers than older participants. People living in small cities or towns and those with high income displayed more empathy toward farmers who were at the brink of losing so much in this pandemic than those who in the rural areas and earned low or medium income. But lockdown conditions did not have a significant effect on empathy during the health crisis. This might be due to the fact that the pandemic had a devastating influence on people’s lives with almost no exception. Meanwhile, it disclosed the strong resilience people held in the face of difficult situations.

It is interesting that in all three scenarios we did not find a significant main effect of anxiety on empathy. While the main effect of anxiety was not obtained, anxiety did interact with social support perceived on WeChat in impacting empathy. This suggests that anxiety alone might not necessarily decrease individual empathy as suggested previously (Garbay et al., 2015; Thiemann et al., 2014). Instead, there might be a contingent effect of empathy, such that depending on the other factors like the perceived social support one gained online could amply or alleviate the negative influence of anxiety on empathy. In contrast, social support helped people stay empathetic for others. Across the three scenarios, we found the main effect of social support enhancing empathy, which is consistent with previous literature showing a positive main effect of social support on individuals (Cohen, 1988). This could be due to the psychological mechanisms of a sense of belonging and community (House, 2001) that are correlated positively with individual empathy (Bodaghi et al., 2016).

The benefits of social support further manifested in the contingent impact of anxiety in the interactions of anxiety and social support perceived on WeChat obtained in both Scenario I and II in this current study (i.e., buffering effect of social support). It is worth noting that empathy did not vary significantly when individuals perceived social support online was low or high. This suggests that although the low perceived social support does not aggregate the negativity of anxiety, it will not help buffer individuals from anxiety and increase their empathy either. However, the benefits of social support manifest when individuals perceive sufficient social support, their empathy increases as their anxiety levels grow. This result suggests that empathy does not necessarily grow with anxiety linearly if individuals feel that they are well supported and cared for by others online.

To interpret the perceived social support exhibited among Chinese users in this study, it is important to consider the role of WeChat in China’s tightly controlled media system, where no private news media or social media site is allowed to operate (Zhong et al., 2011). All social media sites in China like WeChat or Weibo are required to employ in-house censors in accordance with the government’s regulations (Zhu & Fu, 2021). Living in such a restrictive media environment where news information and social media content are constantly scrutinized by the government, Chinese users could have developed a different mindset when they access social media content, including that on WeChat (Xu & Albert, 2017). First, they do not have as many social media sites like those in a democracy. Second, the users know that all social media sites were heavily scrutinized and censored by the “net police” run by the government agencies, especially during periods of social or public health crises. They will delete any postings they determined “sensitive” or “detrimental” and even report them to the local police if they think the postings cross “the red line” they draw randomly. That said, Chinese users might still obtain considerable social support in using WeChat as it provided needed information about their families and friends in the pandemic situations, which could be about quarantine or lockdown conditions. For years, WeChat had replaced another social media site QQ as a primary channel for private chats with family members and friends (Li, 2018).
Research reveals that China’s censorship is not always stopping people from speaking up on social media (Zhu & Fu, 2021). According to Zhu and Fu (2021), Chinese users are less concerned about censorship and more inclined to speak out when their opinion expression has been popularized in the community either locally or globally. They concluded that the timing of censorship is more important than its scale. The Covid pandemic had been viewed as a public health disaster almost as soon as it struck. Thus, it was possible that WeChat had been heavily relied on for accessing pandemic-related information, which was less scrutinized than that on official news media platforms, which failed to report any news about the pandemic in the first weeks after the Covid outbreak. Thus, the perceived social support among Chinese users reported in this study might not be the same for social media users in other countries, calling for more scholarship in this stream.

Overall, the results of our study provide evidence to both the main effect (Cohen, 1988) and buffering function (Brock & Lawrence, 2010) of social support to individuals. This suggests that social support overall is not only beneficial to individuals on a regular basis but it is also protective when it comes to extremely stressful events like the Covid pandemic. This suggests a multifaceted nature of social support, which could benefit people through enhancing a variety of psychological mechanisms, including social integration, the sense of belonging, and the sense of community. Hence, even without any outstanding stressors, individuals are better off when they perceive sufficient support from others and are likely to be more empathetic to others. As such, more research should be devoted to further examining the underlying mechanisms through which social support could benefit individuals with or without stressors besides the ones that have been revealed in previous research (House, 2001; Thoits, 1985).

**Theoretical and Practical Implications**

While previous literature has demonstrated the desirability of social support in eliciting prosocial behaviors (Marjanovic et al., 2012), few studies had empirically tested this in a stressful environment like the current study. Theoretically, our results further confirm the positivity of social support either with or without the presence of stress such that under a high-risk public health crisis that endangered the health of global populations and caused millions of lives, social support was found to play a significant role in preserving resilience against disasters. The results also pave a promising path for studying social support in the computer-mediated context. When individuals are not able to obtain face-to-face support from each other, obtaining online support also protects them from anxiety and helps them stay empathetic to others.

Some practical implications also stem from this research for individuals, health care professionals, aid agencies, and policymakers. For individuals, it is important to keep in mind the benefits of seeking social support online when experiencing stress. Individuals could turn to online support groups or social media groups, where they could find people of similar experiences for informational, emotional, and/or tangible support. To healthcare professionals and aid agencies, it is valuable to encourage people to maintain empathy in difficult times. They should strategically take advantage of various computer-mediated technologies such as online forums and social media groups to reach out to individuals and offer them support and care, especially when they suffer from outstanding stress.

**Limitations and Future Directions**

This study has several limitations on which future research can be built. It was a challenge to measure empathy during China’s pandemic due to the lack of a clear, universal definition for empathy (Neumann et al., 2015). Future studies may try to measure empathy in a more objective way and treat it as one’s deeper appreciation and understanding of others’ distress and projecting oneself into another’s misery, which was not fully verified in the current research. Also, this study was conducted in China with a relatively collective culture, whose findings may not be applied to Western cultures emphasizing individualism more (Hofstede, 1984). It is important to study how people in a more individualistic culture evaluate empathy during public crises. Comparative studies may evaluate the role of empathy in the public response to stressful disasters in different societies. While this research has demonstrated the beneficial main effect and the buffering effect of social support, we did not explore the underlying psychological mechanisms that explain the two effects with or without outstanding stress. Future research should expand this study by investigating the psychological explanations of the multifaceted nature of empathy. Last but not the least, future research should also further explore the nuances between social support perceived from general computer-mediated platforms and the one uniquely from social media.

**Conclusion**

This study examines how people’s empathy might be influenced during the Covid pandemic. The lockdown and quarantine conditions were not found to have a significant effect on empathy, indicating that empathy was not quarantined. However, the social support people obtained on social media helped them maintain and extend empathy for others. This implies that social media use may play an important role in preserving empathy, which eventually makes them more resilient in challenging times. Empathy was also found to interact with anxiety in influencing the degree to which participants could maintain empathy. While anxiety does not necessarily decrease empathy, those who reported gaining more social support on social media showed more empathy toward others despite their increasing levels of anxiety. This study thus contributes to the literature by revealing the
critical role of empathy in affective response to others’ hardships in the context of a global health crisis.

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