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Class differences in gratitude and entitlement drive response to COVID-19 measures

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Abstract

Owing to the COVID-19 pandemic, strict government interventions in China have been implemented for more than 3 years as of 2023. How do people of high or low social class respond to the prolonged COVID-19 measures? Recent evidence has yielded inconsistent conclusions. In this study, we move beyond such debate and focus on the underlying motives that are closely related to both social class and COVID-19 measure responses. Using a large Chinese sample (N=1193, 48.50% women, $M_{age}=30.92$ years, SD=6.08), we found that participants with higher (vs. lower) social class, whether subjective or objective, reported greater gratitude, which in turn increased their willingness to support COVID-19 measures (i.e. greater public health support and self-prevention behaviour, and less pandemic burnout). However, those with higher (vs. lower) subjective social class also reported more psychological entitlement, which decreased their willingness to support COVID-19 measures (i.e. less public health support and greater pandemic burnout). These findings contribute to a nuanced understanding of how social class may influence people's response to COVID-19 measures.

KEYWORDS

gratitude, pandemic burnout, psychological entitlement, public health support, self-prevention behaviour, social class

1 | INTRODUCTION

The coronavirus disease (COVID-19) pandemic began in December 2019, and since then, people worldwide have been in the midst of COVID-19. The virus poses multiple risks that not only threaten the physical and mental health of all human beings (Cao et al., 2020; Marroquín et al., 2020; Taquet et al., 2021) but also impact the global economy (McKibbin & Fernando, 2021). While many Western societies relaxed COVID-19 control measures in early 2021, some Eastern societies, such as China, still encouraged their people to adhere to self-prevention health guidelines until the end of 2022. Abundant evidence indicates that adherence to COVID-19 measures can reduce transmission, thereby safeguarding the collective safety (Atchison et al., 2021; Chang et al., 2020). However, prolonged adherence to these measures may

also pose challenges to individuals' psychological well-being (Queen & Harding, 2020), highlighting a conflict between self-interest and the interests of others (see also Romano et al., 2021).

According to the social cognitive perspective on social class, individuals in higher (vs. lower) social class tend to prioritize self-interest over consideration for others (Kraus et al., 2012), leading to a greater inclination towards engaging in more selfish and less prosocial behaviours (Dubois et al., 2015; Kraus et al., 2012; Piff et al., 2012). Thus, one may suggest that people with higher social class are less supportive of COVID-19 measures. However, conflicting evidence has been found regarding the support for COVID-19 measures among individuals of high and low social classes. Some studies suggest that the less wealthy are more supportive of such measures (Agüero et al., 2011; Cowling et al., 2010;

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Eastwood et al., 2009; Lau et al., 2010), while others indicate the opposite (Atchison et al., 2021; Jay et al., 2020; Ye et al., 2021). In this research, we move beyond such debate and focus on the underlying processes that are influenced by social class and, in turn, affect responses to COVID-19 measures (see Li et al., 2022). In particular, we focus on two underlying mechanisms, psychological entitlement and gratitude, the constructs that have distinct roles in self- and other-oriented psychological processes (Bausert et al., 2018; Campbell et al., 2004; Hussong et al., 2023; Zitek et al., 2010), particularly in contexts involving conflicts of interest between individual and collective levels, such as the COVID-19 pandemic (Hussong et al., 2023; Maaravi et al., 2021; Zhuo & Harrigan, 2023). Thus, the present research aims to examine whether individuals with high or low social class vary in their tendencies towards psychological entitlement and gratitude, and test how these tendencies are related to their response to prolonged COVID-19 measures in China, where strict control measures have been in place for 2 years since the outbreak of COVID-19.

1.1 | Social class, psychological entitlement and response to COVID-19 measures

Some research evidence suggests that the higher class may be associated with increased psychological entitlement (Ding et al., 2017, 2022; Kraus et al., 2012; Piff, 2014; Xu et al., 2020)—a sense that one deserves more and is more important than others (Campbell et al., 2004), which may lead them to ignore COVID-19 measures (Zitek & Schlund, 2021). For instance, a large body of evidence indicates that individuals of a higher social class have strong feelings of psychological entitlement. Individuals who have high family income (Ding et al., 2017; Piff, 2014), have a higher occupation level (Xu et al., 2020), feel wealthy (Ding et al., 2017), or are of a high subject social class (Piff, 2014) or an experimentally manipulated high social class (Ding et al., 2017; Xu et al., 2020) feel especially entitled.

The heightened psychological entitlement among higher social classes may shape how they respond to resource shortages and public crises such as pandemics. Research on resource dilemmas (De Cremer, 2003; De Cremer & Van Dijk, 2005; Samuelson & Allison, 1994) shows that people in higher positions (e.g. leaders) are more likely to make self-benefiting allocations and harvest more from a common resource than people in lower positions (e.g. followers) because dominant positions create a feeling of being entitled to better outcomes. Robust evidence indicates that feeling entitled leads to less social responsibility (Watson & Morris, 1991), failure to follow instructions (Zitek & Jordan, 2019) and self-ish and unethical behaviour (e.g. Campbell et al., 2004; Poon et al., 2013; Schurr & Ritov, 2016; Zitek et al., 2010).

Importantly, there exists some direct evidence showing that psychological entitlement is related to noncompliance with the health guidelines for the COVID-19 pandemic (Li, 2021; Zitek & Schlund, 2021). Thus, we predict that greater psychological entitlement among higher social classes may lead them to ignore COVID-19 measures. Specifically, we propose Hypothesis 1: Higher social class is associated with greater psychological entitlement, which in turn contributes to less support for pandemic measures.

1.2 | Social class, gratitude and response to the COVID-19 measures

Gratitude is an other-oriented tendency characterized by the recognition and emotional response of thankfulness towards one's positive experiences, which are derived from the intentional or unintentional acts of giving by others (Bartlett & DeSteno, 2006; McCullough et al., 2001; Tsang, 2006). It is linked to concerns for the welfare of others, including greater prosocial behaviour and stronger social bonds (Bartlett & DeSteno, 2006; DeSteno et al., 2010; Liu & Hao, 2017; Tsang, 2006). Previous research on the association between social class and gratitude has yielded inconsistent conclusions. Some researchers argue that because of lacking economic and social resources, people with lower social class may be more interdependence on others (Kraus et al., 2012), thereby enhancing their experience and expression of greater gratitude. Some empirical evidence supports this argument and reveals that the lower-class individuals, including the working class (vs. the middle class; see Howe, 2017), 7- to 14-year-old students in public schools (vs. children in private schools; see Mercon-Vargas et al., 2016), and of a lower subjective social class (vs. a high subjective class; see Yang et al., 2022), tend to report higher levels of gratitude. However, other studies have shown the opposite conclusion; the higher class is associated with more gratitude than the lower class, especially during the COVID-19 pandemic. For example, Liu and Hao (2017) found that individuals in China with a higher annual household income and higher levels of education reported experiencing greater gratitude in daily life. A short-term longitudinal study also revealed that undergraduate students of a lower class reported fewer grateful emotions than higher-class students in the United States before and during the COVID-19 pandemic (Bono et al., 2020). Similarly, an ongoing three-wave study showed that single mothers with higher income reported experiencing greater gratitude in daily life in Indiana, a state in the Midwestern United States, prior to and during the COVID-19 pandemic (Taylor et al., 2022). Despite the mixed findings of social class and gratitude, we argue that in the context of the COVID-19 pandemic, the higher class may be associated with increased gratitude compared with the lower class.

Moreover, researchers have found that gratitude contributes to a wide variety of social and psychological benefits (Watkins, 2014), such as promoting well-being (Emmons & McCullough, 2003; Kaplan et al., 2014; Wang et al., 2015), social relationships (Wang et al., 2015), social integration (Froh et al., 2010), cooperative economic exchange (DeSteno et al., 2010), donations that benefit others (Liu & Hao, 2017) and other prosocial behaviour (even at the sake of one's own interests; see Bartlett & DeSteno, 2006; Tsang, 2006). Importantly, there exists some direct evidence showing that gratitude is linked to stronger endorsement of virus prevention measures (e.g. Tong & Oh, 2021). In a cross-sectional survey conducted during the escalating pandemic, 417 Chinese participants from Singapore were asked about their feelings of gratitude and to rate their intentions to follow virus prevention measures, including social distancing and maintaining personal hygiene. The findings showed that gratitude is a positive predictor of prosocial responses to the pandemic measures (Tong & Oh, 2021). Therefore, we propose that greater gratitude among higher social classes may lead to compliance with COVID-19 measures. Specifically, we propose Hypothesis 2: Higher social class is associated with greater gratitude during the pandemic, which in turn contributes to more support for pandemic measures.

We conducted a cross-sectional study in China to test our two hypotheses. The responses to COVID-19 measures in our study included public health support, self-prevention behaviour and pandemic burnout. Public health support refers to the willingness to comply with strict COVID-19 policies to reduce the transmission of COVID-19, even if doing so involves personal inconvenience (Gkinopoulos et al., 2022), including scanning codes before entering public places and queuing for nucleic acid detection. Self-prevention behaviour refers to proactive actions that protect individuals from viruses, including social distancing and hygiene behaviours (Bonell et al., 2020; Faasse & Newby, 2020). In addition, due to the COVID-19 pandemic, strict government interventions have been implemented in China for more than 2 years. Pandemic burnout refers to the emotional depletion and loss of motivation that result from prolonged exposure to chronic emotional and interpersonal stressors related to COVID-19 measures (Queen & Harding, 2020).

2 | METHOD

2.1 | Participants

According to Schönbrodt and Perugini (2013), a sample size of 250 would be recommended to obtain stable estimates for correlations. Our study aimed for a relatively large and nationwide sample of over 1000 participants and terminated the participant recruitment when the

targeted number of eligible participants was achieved. A total of 1193 adults (only 1134 participants report gender and age, 550 women, M_{age}=30.92 years, SD=6.08) from 29 provinces in China were recruited online via Cradamo (https://www.credamo.com, accessed on 7–9 August 2021), an online participant recruitment platform in China. All participants were non-students with work experience.

2.2 | Procedure and measures

The data collection procedures for this study were reviewed and approved by the ethics committee at the authors' University. All participants were invited to complete the survey on the online research platform. They provided informed consent before the study. Upon completion, they were debriefed and paid CN¥ 5 for their participation.

2.2.1 | Subjective social class

Participants first completed the MacArthur Scale of Subjective Social Classes (Adler et al., 2000). They were presented with a ladder containing 10 rungs representing people with different levels of education, income and occupational prestige in their society and were instructed to place a rung to represent where they felt they stood relative to others.

2.2.2 | Objective social class

For objective social class, we asked participants to report their education and income (Engstrom & Laurin, 2024), and then standardized and averaged them to obtain a single objective social class index, where higher scores indicate higher objective social class (see Tan & Kraus, 2015). Education was assessed and coded into four categories (1=high school or lower, 2=junior college, 3=bachelor's degree and 4=master's degree or higher; see Li et al., 2020). Monthly income was coded into nine categories (1=<CN¥1000, 2=CN¥1000-CN¥2000, 3=CN¥2000-CN¥3000, 4=CN¥3000-CN¥5000, 5=CN¥5000-CN¥5000, 6=CN¥8000-CN¥12,000, 7=CN¥12,000-CN¥15,000, 8=CN¥15,000-CN¥20,000 and 9=over CN¥20,000).

2.2.3 | Gratitude

Participants next reported gratitude during the COVID-19 pandemic using four items (α =0.78; e.g. 'I feel thankful for what I have received in life during the pandemic'), which were adapted from the Self-Report Measures of Gratitude (McCullough et al., 2002) and rated on a 7-point scale (1=strong disagreement and

7=strong agreement). We calculated the average score to represent the participants' levels of gratitude, with higher scores indicating higher levels of gratitude.

2.2.4 | Psychological entitlement

Afterwards, participants also reported psychological entitlement during the COVID-19 pandemic using four items (α =0.73; e.g. 'I think I deserve more and better medical supplies for epidemic prevention than others'), which were adapted from the Psychological Entitlement Scale (PES; Campbell et al., 2004) and rated on a 7-point scale (1=strong disagreement and 7=strong agreement). We calculated the average score to represent the participants' levels of psychological entitlement, with higher scores indicating higher psychological entitlement.

2.2.5 | Response to the COVID-19 measures

Participants reported their responses to the COVID-19 measures on a 7-point scale (1=strong disagreement and 7=strong agreement), including public health support, pandemic burnout and self-prevention behaviour. The Scale of public health support contains four items $(\alpha = 0.72; e.g.$ 'Even if there is some health risk, I am still willing to respond to the call for a COVID-19 vaccine', see Gkinopoulos et al., 2022; Zhang, 2017). We calculated the average score to represent the participants' level of public health support, with higher scores indicating a greater willingness to comply with strict COVID-19 policies. The scale for pandemic burnout contains four items (α =0.80; e.g. 'The constant need to take prevention measures makes me feel very tired', see Queen & Harding, 2020). We calculated the average scores, with higher scores indicating a higher level of burnout from COVID-19 measures. The scale for self-prevention behaviour contained three items (α =0.71; e.g. 'In the last 2 weeks, I have taken more prevention behaviors than I was taking 2 weeks ago'; see at Ludolph et al., 2018). We also calculated the average scores to represent the participants' level of self-prevention behaviour, with higher scores indicating more actions to protect individuals from viruses in the last 2 weeks.

2.3 | Data analysis

Data were analysed using Mplus version 7.11. We first examined the relationships between the key variables. Then, we employed structural equation modelling (SEM) with observed variables to test the proposed hypotheses and used the accelerated-bias-corrected bootstrap estimation procedure with 5000 bootstrap samples to test the indirect effects.

3 | RESULTS

3.1 | Preliminary analyses

Descriptions and bivariate correlations are displayed in Table 1. As expected, gratitude was found to significantly correlate with both subjective and objective social class (ps<0.001), as well as with public health support, pandemic burnout and self-preventive behaviour (ps<0.001). Psychological entitlement showed significant correlations with subjective social class (r=0.12, p<0.001) but not with objective social class (p=0.21). It was also significantly related to public health support and pandemic burnout (ps<0.001), but not to self-preventive behaviour (p=0.79). Additionally, as seen in Table 1, age (but not gender) was significantly correlated with some key variables (i.e. gratitude and self-preventive behaviour, ps<0.05); thus, it was designated as a covariate in subsequent analyses.

3.2 | Structural equation model: Hypothesis testing

We tested the hypotheses using SEM with observed variables, controlling for participants' age. Model fit was not relevant because the hypothesized model was fully saturated. As seen in Figure 1, the analysis only revealed that subjective social class was a negative predictor of pandemic burnout (β =-0.09, p<0.001) and objective social class was a negative predictor of public health support (β =-0.05, p=0.02). No other significant effect was found in social class and response to the COVID-19 measures.

Figure 2 showed that both subjective and objective social classes were significant predictors of psychological entitlement and gratitude (ps<0.01), except for objective social class not significantly predicting psychological entitlement (p=0.08). Moreover, both gratitude and psychological entitlement were significant predictors of public health support, pandemic burnout and self-preventive behaviour (ps<0.001), except for psychological entitlement, which did not significantly predict self-preventive behaviour (p=0.09).

We used the accelerated-bias-corrected bootstrap estimation procedure with 5000 bootstrap samples to test the indirect effects of subjective and objective social class on response to COVID-19 measures through psychological entitlement and gratitude (MacKinnon et al., 2004). As predicted, the indirect effects of subjective and objective social class on public health support, pandemic burnout and self-prevention behaviour were significant through gratitude (95% CIs do not include 0, ps<0.001; see Figure 2 and Table 2). The indirect effects of subjective social class on public health support and pandemic burnout were significant through psychological entitlement, but not on self-prevention behaviour (95%

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TABLE 1 Descriptive statistics of and correlations between the main variables.

Variable	M	$^{\mathrm{SD}}$	1	2	8	4	w	9	7	∞
1. Gender	0.52	0.50								
2. Age	30.92	80.9	0.10***							
3. Subject social class	5.80	1.34	0.02	0.14***						
4. Objective social class	0.14	0.73	**80.0	-0.06	0.36***					
5. Psychological entitlement	3.54	1.20	-0.002	0.02	0.12***	-0.04				
6. Gratitude	6.07	0.79	-0.02	0.08**	0.19***	0.14***	-0.16**			
7. Public health support	6.43	0.55	-0.02	0.05	0.05	-0.02	-0.18**	0.47***		
8. Pandemic burnout	2.88	1.21	-0.003	-0.04	-0.20***	-0.10***	0.24***	-0.37***	-0.27***	
9. Self-preventive behaviour	6.24	0.75	-0.03	0.10***	0.13***	**80.0	-0.01	0.42***	0.46***	-0.28***

Note: N=1193 (only 1134 participants report gender and age). Gender (1 = male, 0=female) $^{**}p < 0.01$.

CIs do not include 0, ps < 0.05; see Figure 2 and Table 2). However, we found no indirect effect of objective social class on response to COVID-19 measures through psychological entitlement (95% CI=[-0.001, -0.01], p=0.613; see Figure 2 and Table 2).

4 | DISCUSSION

The present study provides some evidence supporting the prediction that individuals of higher and lower social class vary in their tendencies towards psychological entitlement and gratitude, and these tendencies contribute to their response to prolonged COVID-19 measures in China, where strict control measures have been in place for 2 years since the outbreak. Specifically, we found that participants with higher (vs. lower) social class, whether subjective or objective, reported greater gratitude, which in turn increased their willingness to support COVID-19 measures (i.e. greater public health support and selfprevention behaviour, and less pandemic burnout). However, those with higher (vs. lower) subjective (but not objective) social class also reported more psychological entitlement, which decreased their willingness to support COVID-19 measures (i.e. less public health support and greater pandemic burnout).

4.1 | Theoretical implications

Our findings extend previous literature on the link between social class and response to the COVID-19 measures in at least two respects. First, most prior research has predominantly focused on examining how social class directly influences individuals' responses to COVID-19 prevention and control measures, yielding inconsistent findings (Li et al., 2022). In contrast, this study focused on the underlying psychological processes—psychological entitlement and gratitude, two constructs that are closely related to both social class and COVID-19 measure responses. On the one hand, higher (objective and subjective) social class people are more likely to experience gratitude which directs attention towards perceiving meaningful benefits from the COVID-19 health guidelines and towards a focus on others; thus, they are willing to support COVID-19 measures. On the other hand, those of higher (subjective) social class also feel entitled and tend to believe that, compared with others, they are less likely to be infected with COVID-19 and have better coping strategies if they become infected; thus, they are less likely to adopt prevention and control measures (Zitek & Schlund, 2021). This could explain why the predictive role of social class on preventive behaviour varies across previous studies (e.g. Lau et al., 2010; Li et al., 2022; Rubin et al., 2009; Ye et al., 2021), as different psychological mechanisms come into play. These findings highlight the importance of

FIGURE 1 Model of the effects of subjective and objective social class on responses to the COVID-19 measures (including public health support, pandemic burnout and self-prevention behaviour). **p<0.01; ***p<0.001.

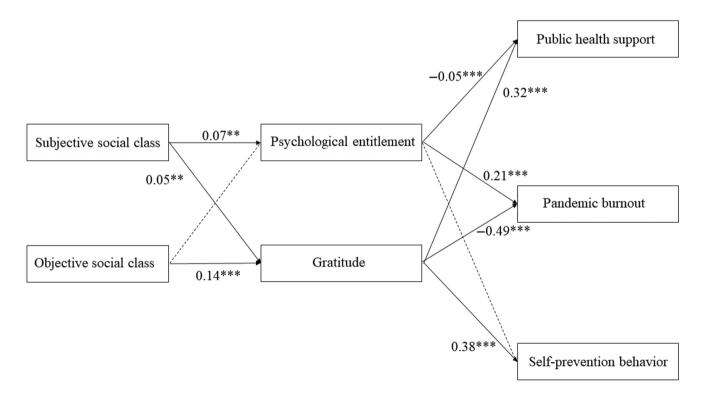


FIGURE 2 Model of the effects of subjective and objective social class on responses to the COVID-19 measures (including public health support, pandemic burnout and self-prevention behaviour) via psychological entitlement and gratitude. **p<0.01; ***p<0.001.

examining psychological motives and mechanisms that cause people to prioritize self-focus or focus on others among various social classes during public crises, such as the COVID-19 pandemic.

Second, previous studies have found that gratitude is negatively related to entitlement (e.g. Twenge &

Campbell, 2009), as gratitude encourages people to focus on others' interests and help them (e.g. Tong & Oh, 2021), while psychological entitlement prioritizes one's own benefits and overlooks others (e.g. Zitek & Jordan, 2019). In the present study, we found that gratitude and psychological entitlement are not mutually exclusive concepts

TABLE 2 Indirect roles of psychological entitlement and gratitude between social class and response to the COVID-19 measures.

				BC 95% C	ZI .
Path	Coeff	SE	p	LLCI	ULCL
Public health support					
Subject social class \rightarrow Psychological entitlement \rightarrow Public health support	-0.011	0.005	0.019	-0.019	-0.003
Subject social class → Gratitude → Public health support	0.048	0.016	0.003	0.022	0.074
Objective social class → Psychological entitlement → Public health support	0.006	0.004	0.117	-0.001	0.012
Objective social class → Gratitude → Public health support	0.065	0.015	< 0.001	0.040	0.091
Pandemic burnout					
Subject social class \rightarrow Psychological entitlement \rightarrow Pandemic burnout	0.021	0.007	0.004	0.009	0.033
Subject social class → Gratitude → Pandemic burnout	-0.033	0.011	0.002	-0.050	-0.016
Objective social class → Psychological entitlement → Pandemic burnout	-0.011	0.006	0.090	-0.022	0.001
Objective social class → Gratitude → Pandemic burnout	-0.045	0.012	< 0.001	-0.065	-0.026
Self-prevention behaviour					
Subject social class \rightarrow Psychological entitlement \rightarrow Self-prevention behaviour	0.005	0.003	0.130	-0.001	0.010
Subject social class → Gratitude → Self-prevention behaviour	0.042	0.013	< 0.001	0.020	0.064
Objective social class \rightarrow Psychological entitlement \rightarrow Self-prevention behaviour	-0.003	0.002	0.256	-0.006	0.001
Objective social class → Gratitude → Self-prevention behaviour	0.057	0.014	< 0.001	0.034	0.081

Note: All parameters are standardized.

and that higher (subjective) social class individuals can simultaneously possess a high level of gratitude and a high level of psychological entitlement. Specifically, in contrast to what is typically observed (Howe, 2017; Merçon-Vargas et al., 2016), the higher class displayed a greater level of gratitude than the lower class during the pandemic in China. These findings conflict with the social cognitive perspective on social class, which argues that individuals from higher social class possess greater social and economic resources, and thus are less dependent on others, leading to a self-centred orientation. It is possible that in East Asian societies such as China, where other-orientation is strongly sanctioned, higher class is associated with stronger other-orientation and with selforientation (see also Miyamoto et al., 2018). Another possible explanation is that, confronted with the threat of the pandemic, individuals with higher social class could not rely solely on their own resources to overcome life's challenges and thus needed the help of others. This may suggest that gratitude is not only a stable personal trait but also an emotion that can be cultivated through human intervention to promote prosocial behaviours that benefit others (Bartlett & DeSteno, 2006; Emmons & McCullough, 2003).

Contrary to our initial expectations, we did not find significant indirect effects of objective social class on responses to the COVID-19 measures through psychological entitlement. One possible explanation is entitlement involves a sense of deserving superior resources and treatment relative to others, a sentiment that may be more robustly predicted by subjective measures of social class (see Ding et al., 2022). Thus, the subjective aspect of social class might better predict psychological processes

such as entitlement, which drive people's responses to COVID-19 measures. Moreover, supporting COVID-19 measures not only protects others but also oneself. These mixed motivations may influence the effect of entitlement on social class and response to COVID-19 measures. This aligns with previous research evidence, which indicated that entitled individuals are unlikely to engage in behaviours that harm themselves (Daddis & Brunell, 2015). Therefore, rather than advocating for the entitled to help others, it is better to call on them to protect themselves.

4.2 | Practical implications

Practical implications may be drawn from this study, particularly in light of public health crises such as the COVID-19 pandemic, wherein governmental policies significantly influence the psychological responses of individuals across social classes (see Bavel et al., 2020). Our findings broadly suggest that individuals, especially those with higher social classes, show varying levels of support for, and resistance to, pandemic prevention and control measures, influenced by their higher levels of gratitude and entitlement. Consequently, policymakers should consider the psychological motives and mechanisms prevalent among various social classes during public crises like the COVID-19 pandemic. On the one hand, promoting a sense of gratitude through social media could bolster engagement in prosocial preventive actions; on the other hand, emphasizing the personal and familial advantages of preventive behaviours might motivate

individuals with a heightened sense of entitlement to participate in self-protective actions.

Additionally, it should be noted that while this study was conducted in the context of COVID-19, its findings have broader implications for various public health issues that necessitate a balance between personal convenience and collective welfare. These issues include decisions such as whether to enter public spaces and wear a mask when experiencing cold symptoms, or whether to smoke freely versus only in designated smoking areas. Such decisions may be directly influenced by individuals' social class, particularly their subjective social class, as well as psychological factors such as psychological entitlement and gratitude. Furthermore, these findings may provide a theoretical foundation for exploring effective interventions to mitigate inappropriate behaviours.

4.3 Limitations

This study has several limitations. First, it employs cross-sectional data for mediation analysis, which may generate substantial bias (Maxwell & Cole, 2007). Future research could benefit from experimental research to replicate and validate our findings. Second, the data were collected from August 2021, during a period of strict COVID-19 control measures in China. There may have been some changes in people's thinking and behaviour after the COVID-19 control measures were relaxed in January 2023. Therefore, the predictive power of our study may have been slightly diminished. Third, given that the data were self-reported, it is possible that participants reported higher levels of willingness and behaviour to comply with COVID-19 policies because of social desirability bias. The accuracy of self-reported data can be limited by various factors such as participants' honesty, introspective ability and interpretation of the survey questions (Atchison et al., 2021). Fourth, most items and scales used in this study were constructed based on those used in previous studies conducted in China. Although the internal reliability of these measures is acceptable, it may be necessary to validate them externally for generalizability (Pan et al., 2020).

4.4 Conclusion

In conclusion, the present findings reveal that people of different social classes with varying gratitude and psychological entitlement differ in their responses to COVID-19 measures. Specifically, despite some inconsistencies in objective social class, we generally found that participants with higher (versus lower) subjective social class reported greater psychological entitlement

but also more gratitude, which in turn decreased and increased their willingness to support COVID-19 measures, respectively. These results suggest that we should increase gratitude and reduce psychological entitlement among different social classes to correctly implement preventive measures to protect themselves and their families from the risk of COVID-19 exposure. These implications could inform policymakers regarding specific measures needed to combat the pandemic based on scientific guidance.

AUTHOR CONTRIBUTIONS

Yang Wang: Conceptualization; data curation; formal analysis; investigation; methodology; project administration; resources; software; validation; visualization; writing – original draft; writing – review and editing. Yi Ding: Conceptualization; data curation; funding acquisition; methodology; project administration; supervision; validation; writing – review and editing. Xiaona Xie: Conceptualization; data curation; formal analysis; investigation; methodology; supervision; validation; writing - review and editing. Yongyu Guo: Conceptualization; funding acquisition; methodology; project administration; resources; supervision; writing - review and editing.

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CONFLICT OF INTEREST STATEMENT

The authors declare that there are no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

PRE-REGISTRATION STATEMENT

This study was not pre-registered.

RESEARCH MATERIALS AVAILABILITY STATEMENT

The materials used in this study are available from the corresponding author upon reasonable request.

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