



The influence of fear of isolation on contact experience disclosure: Evidence from safety management of the COVID-19 pandemic

Hongxu Lu,¹  Jinyun Duan,² Ting Wu,³  Bei Zhou,¹ and Changyuan Xu¹

¹School of Business, NingboTech University, Ningbo, China, ²School of Psychology and Cognitive Science, East China Normal University, Shanghai, China, and ³School of Business, Zhejiang University City College, Hangzhou, China

As the coronavirus disease 2019 (COVID-19) pandemic, caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), continues to rage, disclosure of exposure to the virus is of great significance to safety management, especially considering the long latency of the disease. We conducted a survey based on terror management theory of 2,542 people in 71 cities, representing all provinces in mainland China. The results revealed that fear of being isolated influenced disclosure of exposure to the virus and that this influence was mediated by defensive impression management motivation. An inclusive climate buffered both the direct and the indirect effects of fear of isolation on disclosure behaviour via defensive impression management motivation. The implications of these findings for research and safety management during the COVID-19 pandemic are discussed.

Keywords: defensive impression management motivation, disclosure behaviour, fear of isolation, inclusive climate, terror management theory.

Introduction

Concealment of exposure to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (such as passing through coronavirus disease 2019 [COVID-19] hotspots, having contact with people who have returned from such hotspots, or participating in gatherings at which people confirmed or suspected of carrying the virus are present) has contributed to the rapid spread of COVID-19 and increased the difficulty of preventing and controlling the spread of the virus. In particular, the long incubation period of SARS-CoV-2 makes detection difficult, and prevention and control through individual contact tracing are time consuming and incur high social costs. Therefore, the ability to guide the public to disclose any potential contact with the virus is of great practical significance. However, individuals with a history of exposure to SARS-CoV-2 are likely to remain silent about their exposure for fear of being isolated by others and labelled a “black sheep.”

Studies have also explored the antecedents of disclosure behaviour (Corrigan & Rao, 2012), but some issues remain to be addressed. First, research exploring the influence of an individual's emotions on their disclosure behaviour in specific contexts is still lacking. Research

has suggested that self-efficacy (Kalichman & Nachimson, 1999; Horne & Johnson, 2018) and organizational support (Griffith & Hebl, 2002; Tucker et al., 2008) can encourage individuals to disclose workplace issues. However, in the context of epidemic prevention and control, people are afraid of being infected by someone with a history of exposure to the virus (Le et al., 2020; Tran, Nguyen, et al., 2020; Wang, Chudzicka-Czupala, et al., 2020; Wang, Pan, et al., 2020b; Wang, Pan, et al., 2020c). In this case, individuals exposed to SARS-CoV-2 are afraid of coming under suspicion and being discussed by others around them and label themselves as a “black sheep,” leading to a decrease in disclosure behaviour. Therefore, it is of great significance to explore the antecedents of disclosure of SARS-CoV-2 exposure from an emotional perspective.

Second, research has failed to discuss the relationships between emotions caused by threats from within social groups and an individual's tendency to express themselves openly. Research has indicated that fear of external threats promotes the expression of work-related views (Lebel, 2016). However, according to terror management theory (TMT, Greenberg et al., 1990), as a death threat, fear of being isolated stimulates the need to maintain self-esteem in the context of the COVID-19 pandemic. In such cases, individuals are motivated by defensive impression management, which induces them to conceal their exposure to SARS-CoV-2 in order to avoid damaging their self-esteem. Unfortunately, in the context of the epidemic, research exploring the mechanisms underlying the role of fear of isolation on disclosure behaviour still needs to be expanded.

Correspondence: Jinyun Duan, School of Psychology and Cognitive Science, East China Normal University, Shanghai 200241, People's Republic of China. E-mail: mgjyduan@hotmail.com

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Third, the literature has failed to explore the situational influence of disclosure behaviour in the context of safety management during a pandemic. Research has extensively considered safety management in organizational contexts (e.g., Leroy *et al.*, 2012), but in social contexts, group norms significantly influence whether individuals choose to disclose their experience (Elliot & Harackiewicz, 1996; Smith & Christakis, 2008). Individuals embedded in a group with a highly inclusive climate are more likely consider those with a history of exposure to SARS-CoV-2. In groups with an inclusive climate, individuals exposed to SARS-CoV-2 will have relatively few psychological concerns and show low defensive motivation, resulting in disclosure behaviour. However, relevant research is still needed.

Accordingly, this study explored the mechanisms and situational factors that influence how a fear of isolation influences an individual's disclosure of virus-exposure history via defensive impression management motivations (see Figure 1). The findings of this study make several contributions to the literature. First, based on TMT (Greenberg *et al.*, 1990), this study analysed the antecedent variables affecting individual disclosure behaviours from the perspective of an individual's anxiety and advanced our understanding of the effects of fear of isolation in the context of the COVID-19 pandemic. Second, by introducing the defensive impression management motivation, this study explored the mechanism through which fear of isolation influences disclosure behaviour and deepened our knowledge regarding the fear of isolation on disclosure behaviour. Third, by testing a cross-level moderated mediation model, this study explored the moderating role of an inclusive climate and provided a framework for the safety management of SARS-CoV-2.

Background and Hypotheses

TMT (Greenberg *et al.*, 1990) argues that self-esteem buffers against death-related thoughts and anxiety. Based

on this view, thinking of death (i.e., mortality salience, including literal and symbolic immortality) increases an individual's need for self-esteem (Greenberg *et al.*, 1986; Pyszczynski *et al.*, 2004). Specifically, literal immortality refers to the cultural worldview that death is not the end of existence, including the belief in heaven, the soul, and reincarnation (e.g., Pyszczynski *et al.*, 2004; Solomon, 2020). In contrast, symbolic immortality refers to the belief that the self is an important part of something bigger than merely the physical existence (Dechesne *et al.*, 2003), such as being part of an enduring nation or performing acts of public service (e.g., Pyszczynski, 2004; Solomon, 2020). Research has indicated that reminders of death increase the need for self-esteem and motivate individuals to engage in esteem-building behaviours and self-enhancement (Pyszczynski *et al.*, 2004; Schmeichel *et al.*, 2009). Some studies have demonstrated that anxiety caused by mortality salience triggers an individual's psychological defence mechanisms and increases motivation to prevent impaired self-esteem and reduce anxiety.

Evidence has suggested that self-esteem is of cultural origin (Solomon *et al.*, 1991) and can be acquired by meeting certain cultural standards (Greenberg *et al.*, 1986; Solomon *et al.*, 1991). According to TMT, individuals have two types of defences against personal death-related thoughts: proximal and distal. For proximal defences, individuals suppress thoughts of personal mortality or distract themselves from such thoughts (Arndt *et al.*, 1997). However, after engaging in proximal defences, death-related thoughts are still accessible outside of conscious awareness (Wisman *et al.*, 2015). In contrast, for distal defences, a symbolic solution is provided to cope with the awareness of mortality. Specifically, by meeting cultural standards promoted in their group, individuals perceive that they are a valuable part of something significant, alleviating their concerns about mortality and eliminating death-related thoughts (Pyszczynski *et al.*, 2004).

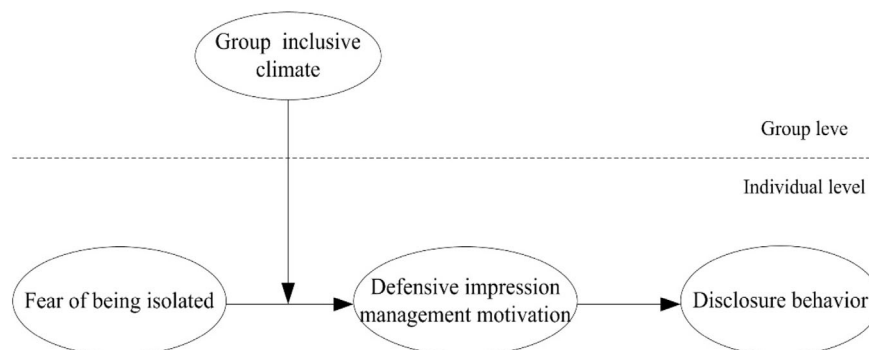


Figure 1 Hypothesized model.

The COVID-19 pandemic is a global health crisis that has resulted in many people experiencing high levels of fear, anxiety (e.g., Du et al., 2020), and uncertainty about their future (e.g., Balzarini et al., 2020). Because of these emotions, many individuals with a history of exposure to the virus have experienced frequent isolation from others around them. This isolation may take the form of criticism from others, avoidance, or a refusal to talk to them. Based on TMT (Greenberg et al., 1986), in a crisis, being isolated by others can damage an individual's self-esteem. In this case, individuals who have been exposed to the virus are motivated to engage in defensive reactions and self-serving biases (i.e., defensive impression management motivation) and tend to keep silent about their exposure as a strategy to reduce isolation-associated anxiety. Research has shown that the threat of separation from people surrounding them stimulates defensive motivations (Greenberg et al., 1986) and prompts the adoption of defensive behaviours to prevent reputational damage and reduce anxiety (Solomon et al., 2004; Steele, 2020; Menzies & Menzies, 2020; Yalom, 2008), such as denying susceptibility to disease and concealing self-experience (Courtney et al., 2020).

According to TMT, in groups with a high level of inclusivity, people will pay attention to the interests of others. In this case, individuals hold favourable views of themselves, experience less defensive motivations in response to mortality salience-induced anxiety (Greenberg, 2012; Pyszczynski et al., 1999) and show less tendency to conceal a history of SARS-CoV-2 exposure. Thus, this study explored the mechanisms and boundary conditions through which fear of isolation influences disclosure behaviours in relation to SARS-CoV-2 exposure.

Fear of isolation and disclosure behaviour

An individual's fear of isolation from those around them can enhance their motivation to engage in defensive impression management. Individuals who have passed through COVID-19 hotspots or been in close contact with individuals infected with SARS-CoV-2 are often labelled as "potential carriers of the coronavirus" or "spreaders." In this situation, individuals who may have been exposed to the virus perceive that those around them will isolate them to avoid possible infection. Studies have indicated that, in the face of potential threats, individuals realize that their image in the eyes of others may be impaired and consider how to avoid unfavourable interpersonal consequences, stimulating defensive impression management motivation (Bolino et al., 2016; Zhao et al., 2019). Therefore, to avoid differential treatment by those around them, such as being talked about or avoided, individuals exposed to SARS-

CoV-2 may focus on maintaining their own image in the minds of others, thereby triggering their defensive impression management motivation. Some studies have demonstrated that the anxiety of potential separation from those around them motivates individuals to protect their self-esteem during the COVID-19 pandemic (McCabe & Erdem, 2021; Steele, 2020). Thus, we proposed the following hypothesis:

H1: Fear of being isolated is positively related to defensive impression management motivation.

Mediation of defensive impression management motivation

Defensive impression management motivation can affect an individual's disclosure behaviour. During the COVID-19 pandemic, individuals exposed to SARS-CoV-2 have realized that speaking about their exposure may lead to discrimination from others, such as a refusal to communicate with them and talking about them behind their backs. Research has suggested that, to maintain their image, individuals will hide information that could lead to them being negatively evaluated (Van de Walle, 1997). Therefore, to maintain their image in the eyes of others around them, individuals who have been exposed to the virus may remain silent about such personal experience.

Individuals labelled as "virus spreaders" may be worried about the suspicion of and even isolation by others around them. Research has shown that individuals who fear being isolated tend to adopt defensive behaviours, such as keeping silent and concealing information (Lantian et al., 2018). For individuals exposed to SARS-CoV-2, a desire to avoid discrimination by others triggers their defensive motivation against the deterioration of their image in the eyes of others, leading them to use silence as a strategy to avoid suspicion and consequent isolation; therefore, they may avoid confessing to viral exposure. Research has indicated that COVID-19-associated anxiety motivates individuals to protect their self-image and encourages them to adopt defensive behaviours to reduce self-anxiety (Ahmed et al., 2021). Therefore, we proposed the following hypothesis:

H2: Defensive impression management motivation mediates the effect of fear of isolation on disclosure behaviour.

Cross-level moderation of inclusive social climate

An inclusive climate is one in which a group is characterized by a shared perception of social justice and valuing mutual respect and tolerance (Nishii, 2013); these characteristics are likely to moderate the effects of an

individual's fear of isolation and their defensive impression management motivation. According to TMT, the beliefs shared among individuals in a group affect their interpretations of external threats, which in turn influences their response to threats (Greenberg *et al.*, 1986; Pyszczynski *et al.*, 2015). Specifically, individuals who are exposed to a negative group climate perceive a higher degree of anxiety and defensive motivations than those exposed to a positive group climate when faced with external threats. They are more likely to show avoidance behaviours, such as denying the possibility of being infected (Courtney *et al.*, 2020) or exhibiting self-interested behaviours (Ahmed *et al.*, 2021) to reduce their self-anxiety. Research has suggested that members embedded in a highly inclusive climate trust and care about each other, whereas members of a group with low inclusivity are suspicious of each other and value self-interest (Mayer, 2014).

Compared with a low-level inclusive climate, a high-level inclusive climate enhances a sense of trust, which in turn facilitates social exchange relationships and obligation to reciprocate (e.g., Kim *et al.*, 2020). In an environment with high levels of inclusivity, individuals with a fear of isolation will tend to consider the interests of others (i.e., preventing others from being infected) rather than self-interests such as self-esteem and face (i.e., preventing their self-image from being damaged). Therefore, they do not have to worry about their image in the minds of others, reducing their motivation for impression management. In this case, individuals tend to disclose exposure to the virus because they have no need to hide it.

In contrast, when the inclusive group climate is low, individuals will have a lower sense of reciprocal obligation (e.g., Perry *et al.*, 2020). In this case, individuals with a fear of isolation realize that their self-interests (i.e., preventing reputational damage) are more important than group interests (i.e., preventing others from being infected). Therefore, they strive to avoid reputational damage, resulting in a strong defensive impression management motivation. In this case, to protect their self-image and interests, exposed individuals will remain silent about their contact experiences. Previous research has shown that individuals in groups with a more inclusive climate feel a lower psychological burden and tend to express themselves more freely (Nishii, 2013). Meanwhile, some studies have indicated that an inclusive climate can break the barrier of group silence and promote information exchange among group members (Bodla *et al.*, 2018). Therefore, we proposed the following hypothesis:

H3: An inclusive climate moderates the indirect effect of fear of being isolated on disclosure behaviour via defensive impression management motivation such that the effect is stronger when inclusivity is lower.

Method

Sample and procedure

With the situation of the COVID-19 pandemic changing daily, it was not possible to use a time-lagged study design to test our hypotheses. Therefore, we used a single questionnaire to collect data for our analysis. Our sample included respondents from 71 cities, representing all provinces in mainland China. Based on a stratified sampling method (Neyman, 1992), the collection process was as follows. First, at the end of March 2020, we selected between one and five cities in each province of mainland China, depending on the severity of the epidemic in that region. Then, using the snowball sampling method (Loi *et al.*, 2020), we invited four individuals from each city to participate in the study via a WeChat questionnaire and asked them to be group leaders in charge of data collection for their respective cities.¹ Second, we explained the purpose and specific procedures of this study to the participants and requested that they ask 8–11 individuals who lived in their city to volunteer to participate in the study.

We distributed 2,553 questionnaires to participants in 71 cities (31–44 people per city). Of these, 11 questionnaires were eliminated because respondents failed to answer the questions in accordance with the requirements. Of the final 2,542 participants, 1,467 were men (57.7%) and 56.9% had an education level of college or above. The average age was 33.15 years ($SD = 11.33$).

Measures

All of the measures were translated and back-translated to ensure validity (Brislin, 1980). All of the variables were measured on a 5-point Likert scale, except perception of inclusive climate, for which a 7-point scale was used. At the beginning of the questionnaire, we asked the participants to imagine that they had passed through a key epidemic area or had contact with a person who had returned from a key epidemic area or that they had participated in a gathering with people with confirmed or suspected SARS-CoV-2 infection, and to respond to the questions on that basis. We included the following note at the beginning of the questionnaire: "If you have a history of exposure to the SARS-CoV-2 virus, you will. ..."

Fear of being isolated. The participants rated their fear of being isolated on a scale adapted from the four-item scale used by Lantian *et al.* (2018). An example item is "If people around me knew that I have been

exposed to the virus, I would be scared that they would wish to put me aside" ($\alpha = 0.95$).

Defensive impression management motivation. We used four items adapted from Tuckey et al. (2002) to measure defensive impression management motivation. This scale included items such as "I'm concerned about what people would think of me if they knew that I had been exposed to the epidemic" ($\alpha = 0.95$).

Disclosure behaviour. We adapted four items from Moss et al. (2003) to measure disclosure behaviour. This scale contained items such as "If I returned home from a key epidemic area, I would be likely to tell people around me about this experience" ($\alpha = 0.95$).

Perception of inclusive climate. The respondents reported their perception of inclusive climate on a four-item scale (Nishii, 2013). This scale contained items such as "In our local area, members of the public are comfortable being themselves" ($\alpha = 0.92$). The perception of inclusive climate ratings assigned to each item by all of the participants in each city exhibited high agreement (intra-class correlation coefficient [ICC] (1) = .22, ICC (2) = .90, and median r_{wg} = .75), so we averaged these ratings at the team level (James et al., 1984).

Data analysis

We used Mplus7.0 (Muthén and Muthén, 2012) to test the direct and indirect effects of the fear of being isolated on disclosure behaviour and used R software (available at <http://www.r-project.org/>) to simulate the indirect effect using the Monte Carlo method (Preacher and Selig, 2012), which can partition variance into different levels. We then tested the cross-level moderation effect of group inclusive climate and used HLM to draw a diagram of the cross-level moderating effect of a group inclusive climate (Raudenbush & Bryk, 2002) and finally calculated the confidence interval (CI) of the moderated mediation effect.

Ethics statement

This study was carried out in accordance with the Academic Morality Guidelines recommendations of the Academic Committee of East China Normal University. All subjects gave written informed consent in accordance with the Declaration of Helsinki. The protocol was approved by the Academic Committee of East China Normal University. In addition, this study was approved by the Ethics Committee of East China Normal University, and all authors guarantee that the academic

ethics were strictly adhered to during the formation of this article.

Results

Confirmatory factor analyses and common method bias test

The confirmatory factor analyses indicated that a five-factor model with the focal variables (fear of being isolated, defensive impression management motivation, disclosure behaviour, perception of inclusive climate; see Table 1) fit the data well ($\chi^2 = 98.79$, $df = 48$, $\chi^2/df = 2.06$, comparative fit index [CFI] = 0.99, Tucker Lewis index [TLI] = 0.99, root mean square error of approximation [RMSEA] = 0.02, standardized root mean square residual [SRMR] = 0.01). Based on previous research recommendations (Podsakoff et al., 2003), the results of Harman's one-factor test showed that no single factor could explain most of the variation, indicating that the common method bias of this research was not obvious.

Descriptive statistics

Descriptive statistics (Table 2) showed that fear of being isolated was positively related to defensive impression management motivation ($r = .18$, $p < .01$) and negatively related to disclosure intention ($r = -.07$, $p < .01$). Defensive impression management motivation was negatively related to an individual's disclosure intention ($r = -0.15$, $p < .01$), which initially met our research expectations.

Hypotheses testing

Results obtained using Mplus7.0 (Muthén and Muthén, 2012) indicated that an individual's fear of being isolated was negatively related to their disclosure intention ($\beta = -.06$, $p < .01$), in support of hypothesis 1. Meanwhile, the fear of being isolated was positively related to an individual's defensive impression management motivation ($\beta = .16$, $p < .01$), and the indirect effect of fear of being isolated on disclosure intention via defensive impression management motivation was significant ($\beta = -.02$, 95% CI $-.030$, $-.013$).

Using R software (<http://www.r-project.org/>), a Monte Carlo-based simulation (20,000 repetitions, 95% CI) indicated that the indirect effect of fear of isolation on disclosure intention via defensive impression management motivation was significant (95% CI $-.030$, $-.013$), which supports hypothesis 2.

The results show that the effect of fear of being isolated on defensive impression management motivation ($\gamma = -.41$; 95% CI $-.595$, $-.231$) was significantly

TABLE 1
Comparison of Measurement Models in the Main Study

Model	χ^2	<i>df</i>	χ^2/df	CFI	TLI	RMSEA	SRMR
Four-factor model	98.79	48	2.06	0.99	0.99	0.02	0.01
Three-factor model (combined <i>x</i> and <i>m</i>)	8,045.17	51	157.75	0.74	0.66	0.25	0.16
Two-factor model (combined <i>x</i> , <i>m</i> , and <i>y</i>)	15,823.57	53	298.56	0.48	0.35	0.34	0.23
Sigel-factor model (combined <i>x</i> , <i>m</i> , <i>y</i> , and <i>w</i>)	21,551.66	54	399.10	0.29	0.13	0.40	0.27

Note. $n = 2,542$. *x* = fear of being isolated; *m* = defensive impression management motivation; *y* = disclosure behaviour; *w* = perception of inclusive climate.

Abbreviations: CFI, comparative fit index; RMSEA, root mean square error of approximation; SRMR, standardized root mean square residual; TLI, Tucker Lewis index.

TABLE 2
Means, Standard Deviations, and Correlations

Variables	Mean	SD	1	2	3	4	5	6
1. Age	33.15	11.33						
2. Gender	.42	.49	.02					
3. Educational level	2.48	.78	-.46**	.02				
4. Fear of being isolated	3.18	1.19	.06**	.00	-.05*			
5. DIMM	3.46	1.12	.04*	.03	-.06**	.18**		
6. Disclosure intention	3.94	.98	.05**	-.02	.06**	-.07**	-.15**	
7. Perception of inclusive climate	5.56	1.13	-.01	-.02	.03	-.06**	-.06**	.11**

Note. $n = 2,542$

Abbreviations: DIMM, defensive impression management motivation; SD, standard deviation.

* $p < .05$.

** $p < .01$.

different when the group inclusive climate was high ($\gamma = -.04$, not significant) and when the group inclusive climate was low ($\gamma = .37$, 95% CI .272, .470). To vividly show the cross-level moderation effect, we plotted the effect of fear of being isolated on defensive impression management motivation at conditional values of the group inclusive climate. Figure 2 shows that defensive impression management motivation was triggered more for individuals with a fear of being isolated when the group inclusive climate was low than when it was high.

Finally, in Table 3, for groups with a high inclusive climate (+ 1 *SD*), the indirect effect of fear of being isolated on an individual's disclosure intention via defensive impression management motivation was non-significant (.01; 95% CI $-.011$, .023); however, for groups with a low inclusive climate (-1 *SD*), this indirect effect was negative and significant ($-.05$; 95% CI $-.081$, $-.026$). Moreover, the difference between the indirect effect of fear of being isolated and disclosure intention via defensive impression management motivation was significant when the inclusive climate was high and low (.06; 95% CI .024, .095).

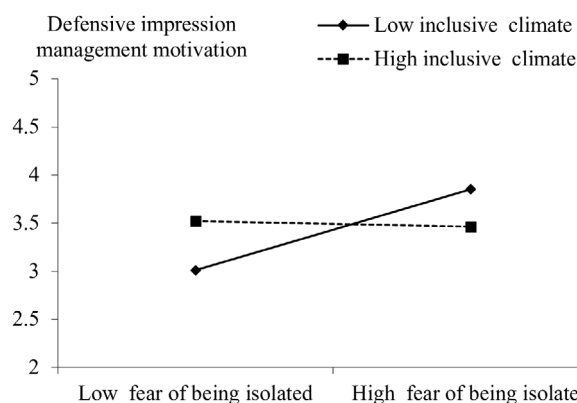


Figure 2 Interactive effects of the fear of being isolated and group inclusive climate on defensive impression management motivation.

Similarly, a Monte Carlo-based simulation (20,000 repetitions, 95% CI) indicated that the indirect effect of an individual's fear of being isolated on disclosure via defensive impression management motivation was non-significant (95% CI $-.020$, .006); however, for groups

TABLE 3
Cross-Level of Moderated Mediation Effect Test

Variables	Moderator inclusive climate	Stage		Indirect effect ($P_{MX} * P_{YM}$)	95% CI of Indirect Effect	
		Effect 1 (P_{MX})	Effect 2 (P_{YM})		1,000 sampling	Monte Carlo 20,000 repetitions
Disclosure intention	Low (-1 SD)	.37**	-.24**	-.05**	-.081, -.026	-.067, -.020
	High (+1 SD)	-.04		.01	-.011, .023	-.020, .006
	Differ	-.41**		.06	.024, .095	.014, .064

Note. $n = 2,542$, * $p < .05$, ** $p < .01$.

Abbreviations: CI, confidence interval; P_{MX} , the effect of fear of being isolated on defensive impression management motivation; P_{YM} , the effect of the defensive impression management motivation on disclosure intention; $P_{MX} * P_{YM}$, the indirect effect of fear of being isolated on disclosure intention via defensive impression management motivation; SD, standard deviation.

with a low inclusive climate (-1 SD), this indirect effect was negative (95% CI $-.067, -.020$). In addition, there was a significant difference between this indirect effect when the inclusive climate was high and low (95% CI $.014, .064$), in line with hypothesis 3. In Figure 3, to vividly show the mediation effect and the cross-level moderated mediation effect, we plot the diagram of path analysis between the variables.

Discussion

Theoretical contributions

The main contributions of this study are as follows. First, based on the TMT, we examined the influence of an individual's emotions on disclosure behaviour in the context of pandemic safety management. Studies have shown that leaders' behavioural styles (Offermann & Malamut, 2002) and support from colleagues (Nils & Rimé, 2012) are important antecedents of an individual's

disclosure behaviour. However, our results suggest that, during the COVID-19 pandemic, people have engaged in behaviours such as avoidance of, refusal to communicate with, and hostility toward individuals exposed to SARS-CoV-2. This has increased the fear of isolation experienced by individuals with a history of exposure to SARS-CoV-2, which has in turn stimulated their defensive impression management motivation and led them to conceal their exposure. Our findings enhance the understanding of the antecedents and generative mechanisms of disclosure behaviour in the context of SARS-CoV-2.

Second, by focusing on the source of the fear from an in-group, we identified a mechanism by which an individual's fear of isolation influences their disclosure behaviour in the context of COVID-19. Studies have indicated that fear of external threats prompts individuals to disclose work-related issues (e.g., Lebel, 2016). However, our results suggest that perceiving threats from within the group (e.g., being isolated from those around them) triggers an individual's motivation to avoid

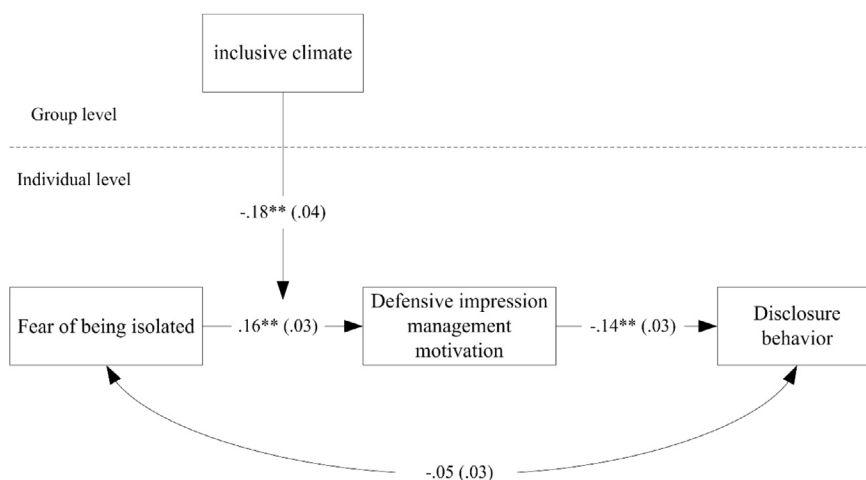


Figure 3 Path analysis of research model.

damage to their personal image, leading them to remain silent about their experience of exposure to the epidemic. By exploring sources of emotion, this study advances our understanding of the mechanisms by which emotions caused by threats within social groups affect disclosure behaviours.

Third, by examining the nature of inclusive climates, we identified a situational factor in the relationship between fear of isolation and disclosure behaviour, enriching our understanding of the factors influencing the effects of emotions on behaviour. Studies have shown that a positive social climate can affect the relationship between environmental conditions and employees' work-related problems (Nishii, 2013; Offermann & Malamut, 2002; Zohar, 2000). Focusing on disclosure behaviour in the context of the COVID-19 epidemic, we found that, in a group with a highly inclusive climate, individuals with a history of exposure to SARS-CoV-2 realize that they will not be labelled as "black sheep" by those around them. As a result, their defensive impression management motivations are weakened and they are more likely to disclose their exposure to the virus. Therefore, this research provides an understanding of the boundary conditions of the mechanisms by which emotions influence disclosure behaviour in a social situation.

Practical implications

This research has practical implications for safety regulation during the COVID-19 pandemic. First, our results show that a fear of being isolated is negatively associated with disclosure of exposure to SARS-CoV-2. Therefore, departments of epidemic safety management should use publicity strategies that help individuals who have been exposed to SARS-CoV-2 to understand the purpose of epidemic prevention and control measures and the meaning of "isolation" correctly. Research has shown that community medical organizations and community managers are on the front line of epidemic safety management and implementing measures to prevent the spread of the epidemic (Tran, Dang, et al., 2020; Tran, Phan, et al., 2020). Therefore, the first practical implication is that communities take measures to reduce the public's anxiety about isolation. For example, through active publicity, departments of epidemic safety management can demonstrate to individuals with a history of exposure to the epidemic that the purpose of recognizing a history of exposure to the epidemic is not to isolate them; rather, it is for their own safety so that infections can be detected and treated early, thereby reducing their fear of being isolated. In contrast, through the promotion of safety measures, departments of epidemic safety management could help the public understand that more consideration should be given to exposed individuals and

that they should not completely alienate them, which would reduce the occurrence of social isolation and effectively alleviate the fear of isolation in individuals with a history of exposure. More importantly, to avoid the stigmatization of individuals with exposure history, communities and departments associated with epidemic safety management should emphasize that "isolation" is a neutral medical term when developing communication strategies. By doing so, people will be educated to recognize that the virus, not the person, is being isolated and so will be less likely to fear isolation.

Second, our results show that defensive impression management motivation can explain the negative relationship between fear of being isolated and disclosure behaviour. Therefore, departments of epidemic safety management can actively dissuade the public from holding negative impressions of those who have been exposed to the virus. For example, through active publicity, departments of epidemic safety management could show the public that exposure to the virus is not a personal fault or stain on an individual's character; rather, disclosing exposure to the virus is self-sacrificing and prosocial behaviour undertaken on behalf of the group, an action that deserves respect. Strictly prohibiting regional and group discrimination and effectively eliminating individual defensive impression management motivations will encourage individuals with a history of exposure to the virus to express their contact experience freely. Moreover, based on the principles of cognitive behaviour therapy, epidemic prevention and control agencies can reduce the motivation for defence by introducing internet-based cognitive behaviour therapy to detect and diagnose depressive symptoms (Zhang & Ho, 2017), such as utilizing smartphone technology to assess the individual's mental state (Ho, Chee, & Ho, 2020) and using the internet as a means of delivering psychotherapeutic interventions (Soh, Ho, Ho, & Tam, 2020).

Third, our results suggest that the indirect effect of fear of isolation on disclosure behaviour via an individual's defensive impression management motivation can be buffered. Therefore, departments of epidemic safety management should strengthen public awareness of the significance of an inclusive culture in society to amplify the effectiveness of epidemic safety prevention and control. For example, acting as a positive role model, departments of epidemic safety management could emphasize the value of a culture that has the virtue of stabilizing the state as well as promoting open-mindedness and tolerance. Furthermore, such departments could promote the cultivation of an inclusive climate in grassroots communities by carrying out group activities online. For example, street and community management departments could use mobile apps to promote mutual assistance in the fight against SARS-CoV-2

to stimulate community cohesion and encourage individuals who have been exposed to the virus to disclose their experiences. This would enhance safety management during the prevention and control of the COVID-19 pandemic and future pandemics.

Limitations and future research

There are some limitations to this study. First, the study used a self-report questionnaire for data collection, which may not be conducive to the stability of the results. Social interaction patterns among individuals (e.g., low-frequency interactions) are distinct from those in an organizational context (e.g., high-frequency interactions), resulting in relatively low reliability for measures of individual behaviours using others' ratings. Considering this, all of the variables were self-reported rather than other-reported. However, research has shown that self-rated measures may also bias the results of studies because of individual social desirability (e.g., Tourangeau & Yan, 2007) and the effects of demand characteristics (Orne, 1962). Therefore, future studies should use multiple data sources, such as official statistics about an individual's outbreak exposure history, as a proxy for measuring that individual's disclosure behaviour, which would enhance the reliability of the findings. The lack of randomization may limit the external validity of our study. As our study was conducted during the COVID-19 pandemic, it was difficult to conduct field questionnaires. Thus, this study used online questionnaires for data collection using a snowball sampling method (Loi et al., 2020), which made it difficult to achieve random sampling in data collection and may have weakened the external validity of the study findings (e.g., Onwuegbuzie, 2003). Therefore, we advocate that future studies collect data samples based on random sampling to enhance the extent to which the sample data characterize the total population, such as sampling based on a ring collection sampling geographic information system (Köhl et al., 2006), followed by field questionnaires to obtain comprehensive data for a particular community.

Second, we did not specify who "people around me" referred to in the study, which may affect the validity of our conclusions. Given differences in psychological distance, an individual's emotional and behavioural responses to the opinions of those around them may differ. For example, individuals may care more about the opinions of people who have less psychological distance (e.g., family and friends) and care less about more psychologically distanced individuals (e.g., neighbours or strangers). Research has also shown that the psychological distance between the target and the individual influences an individual's behavioural choices (Lieberman

et al., 2007; Van Boven et al., 2010). Therefore, future research should introduce psychological distance as a concept in the questionnaire to further reveal the contextual mechanisms of an individual's disclosure behaviour in the context of the COVID-19 pandemic. This study was conducted in China, so some caution is warranted when generalizing our findings to other contexts. Given the global nature of the COVID-19 pandemic and the differences in control policies and cultures across countries, the psychological processes underlying disclosure of contact with the virus may also differ between countries. Therefore, future research should test our findings using data from other countries and cultures to provide high external validity.

Third, although we examined the mediating role of impression management motivation as an exploratory variable, fear of isolation might foster disclosure behaviour through other mechanisms. For example, fear of isolation may stimulate an individual's assertive impression management motivation (Gardner & Martinko, 1988; Palmer et al., 2001) and prevention focus (e.g., Brockner & Higgins, 2001), which in turn both discourage disclosure behaviours. Therefore, we encourage researchers to investigate alternative pathways through which fear of isolation affects disclosure behaviours from multiple perspectives. Meanwhile, TMT theory considers death threat as a crucial antecedent of impaired self-esteem that leads individuals to engage in behaviours to sustain self-esteem. However, this study did not examine the mediating role of self-esteem directly. Therefore, future research could also explore the mediating role of self-esteem in explaining the relationship between death threat and self-protective behaviour in the context of the COVID-19 pandemic.

Conclusions

Our results indicate that an individual's fear of isolation is positively associated with defensive impression management motivation, which decreases their disclosure behaviour. This association is stronger when the group has a low level of inclusivity. Our results advance our understanding of the underlying psychological mechanisms through which fear of isolation affects disclosure behaviour during the COVID-19 pandemic and particularly how group climate can influence this psychological process.

Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Data Availability Statement

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

Research Materials Statement

The materials that support the findings of this study are available on request from the corresponding author.

Pre-Registration Statement

The study presented here was not pre-registered.

End note

1 During the COVID-19 pandemic, for the purposes of epidemic prevention and control, people in China generally stayed at home, so we could only collect questionnaires through WeChat. Additionally, in each city, the number of individuals in daily contact via WeChat was limited. Therefore, we recruited four group leaders in each city and asked each group leader to select 8–11 people in the city to achieve a sampling target of more than 30 individuals per city. The tasks of the group leaders were to explain the purpose of the questionnaire, confirm the willingness of the participants to participate, administer the questionnaire, and manage the distribution of remuneration.

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