


ARTICLE

Working with a Mask: How and When Workplace Mask Wearing Decreases Employee Emotional Exhaustion

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Abstract

Despite the salutary effects of mask wearing broadly recognized during the COVID-19 pandemic, little is known about the consequences of wearing masks in the workplace. The current research raises the question of whether and how mask wearing may impact employees' emotional well-being at work. Drawing on emotion regulation theory (e.g., Gross, 1998, 2015), we propose that mask wearing enables employees to adopt more authentic emotional displays, which in turn decreases emotional exhaustion. Furthermore, guided by the social interaction model of emotion regulation (Coté, 2005), we further posit that for employees whose work requires more frequent face-to-face interaction, the positive impact of mask wearing on emotional exhaustion becomes more significant. Across a pilot study and a three-wave field survey, we find support for this hypothesized model. Implications of these findings for future theorizing and research on mask wearing are discussed.

摘要

尽管在新冠疫情流行期间佩戴口罩的益处得到广泛认可，但我们对在工作场所中佩戴口罩的后果知之甚少。本文聚焦一个研究问题，即佩戴口罩是否影响员工在工作中的情绪体验。基于情感调节理论（Gross, 1998, 2015），我们提出佩戴口罩促进员工采取更真实的情绪表达策略，从而减少工作情绪耗竭。进一步地，根据情感调节的社交互动模型（Coté, 2005），我们认为对于需要进行更频繁面对面互动的员工，工作中佩戴口罩对情绪耗竭的缓解作用变得更为显著。通过一个预研究和一项三时点的追踪调查，我们的结果支持了所提理论模型。本文之后讨论了研究贡献以及未来关于口罩佩戴行为的研究方向。

Keywords: authentic emotional displays; emotional exhaustion; face-to-face interaction; mask wearing

关键词: 口罩佩戴; 真实情感表达; 情绪耗竭; 面对面互动

Introduction

Since the outbreak of COVID-19, mask wearing has become a major measure to protect from the virus and slow down the pandemic (Betsch et al., 2020; Eikenberry et al., 2020; Howard et al., 2021; Leung et al., 2020; Lu, Jin, & English, 2021; Lu, Song, Zheng, & Wang, 2022; Ma, Shan, Zhang, Li, Yang, & Chen, 2020). Out of genuine concern for employee health and safety, many employers require face coverings as company policy and provide workers with high-quality masks. While many employees initially refused to comply with mask/face-covering requirements at work, more and more workers have reached the consensus that wearing a mask is the best way to protect themselves and their colleagues. Furthermore, even as the pandemic recedes, many companies have noticed that some employees continue to voluntarily wear masks when they or their colleagues are ill. This practice has gradually become an accepted norm in the workplace.

In addition to preventing the spread of viruses, emerging research has demonstrated that mask wearing also significantly blocks the ‘transmission’ of emotions and thus alters patterns of social interactions (Carbon, 2020; Global Research, 2020; Lynch & Kilmartin, 2013; Molnar-Szakacs, Uddin, & Heffernan, 2021; Spitzer, 2020). For example, research conducted during the pandemic found that when wearing a mask, individuals could significantly confuse counterparts, making it difficult to read a wide range of emotions (e.g., Carbon, 2020; Parada-Fernández, Herrero-Fernández, Jorge, & Comesaña, 2022). While much is known about the impact of mask wearing on observers’ recognition of emotional expressions, no attention has been paid to the mental consequences for the actors who wear masks. In any work setting, managing emotional expressions is something that must be done above and beyond the daily work routines of each employee, thereby placing additional demands on monitoring and regulating one’s emotions (e.g., Grandey & Melloy, 2017). Given that masks cover two-third of one’s face and help hide emotional expressions, it is possible that wearing a mask helps to alleviate the burden of controlled efforts in emotion regulation (i.e., surface acting and deep acting; Diefendorff & Croyle, 2008; Grandey, 2000; Grandey & Gabriel, 2015), and instead allows for more automatic regulation so that employees could naturally feel and display emotions that match organizational display rules (e.g., Aw, Ilies, & De Pater, 2020; Diefendorff, Croyle, & Gosserand, 2005).

In the current article, we adopted an actor-centric perspective to examine the effects of mask wearing on authentic emotional displays, which in turn influences emotional well-being. Guided by emotion regulation theory (e.g., Gross, 1998), we predict that mask wearing helps facilitate authentic emotional displays – an automatic emotion regulation strategy (Diefendorff et al., 2005; Grandey & Melloy, 2017; Hülshöger, Lang, Schewe, & Zijlstra, 2015; Humphrey, Ashforth, & Diefendorff, 2015) – and thus buffers emotional exhaustion in the workplace. It is important to note that emotion regulation in the workplace is not solely an intrapersonal process. It encompasses a dynamic feedback loop involving input from receivers, significantly influencing the sender’s effort in emotion regulation (e.g., Coté, 2005; Rafaeli & Sutton, 1987). Consequently, when exploring the factors influencing emotion regulation, it is important to take into account interaction-related characteristics, such as the frequency of interaction. In our current investigation, we examined face-to-face interaction frequency – the extent to which an employee’s face can be observed by others in the workplace – and predicted that it serves as a critical boundary condition determining *when* mask wearing exerts more positive influence on workplace emotional well-being. A summary of our model can be found in Figure 1.

Our research makes three contributions to the literature. First, we suggest that mask wearing brings not only physical health benefits but also mental health benefits. Although mask wearing has been widely studied in the past few years (e.g., Betsch et al., 2020; Howard et al., 2021; Lu et al., 2021; Lu et al., 2022), it remains unclear how this work routine affects employees’ emotion regulation strategies and well-being. Our study aims to fill this gap by examining the impact of mask wearing on automatic emotion regulation in the workplace. In doing so, we provide evidence that supports the positive impact of mask wearing. Additionally, our study responds to recent calls (e.g., Lu et al., 2022) for research on the psychological and behavioral consequences of mask wearing beyond its physical health benefits.

Second, our study contributes to the literature by shifting away from the predominant focus on observers (e.g., colleagues or customers who observe emotional expressions from the mask wearer)

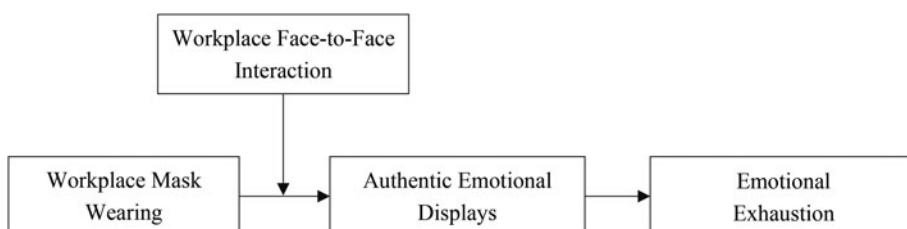


Figure 1. Hypothesized research model

to instead focus on the implications for actors. Previous work on mask wearing and emotion has been exclusively focused on how masks prevent others from recognizing emotional expressions. Focusing on the implications for actors is important because it is critical to understand the potential emotional consequences for employees who choose to wear a mask in the workplace. Our study contributes to this literature by shedding light on the possible mental benefits brought by this work routine. By knowing what the positive consequences are for the actor and what causes them, our research provides practical implications for organizations aimed at encouraging employees to wear a mask at work to help protect the health of others.

The third contribution of our research is that we study the relationship between mask wearing and automatic regulation. In the emotion regulation literature, researchers have long acknowledged the existence of automatic forms of emotion regulation and have found that employees may also express naturally felt emotions that match organizational display rules (e.g., Diefendorff, Stanley, & Gabriel, 2015; Hülshager et al., 2015). However, there lacks an understanding of the antecedents of this powerful and beneficial emotion regulation strategy. A limited amount of previous work provided preliminary results suggesting that individual differences (e.g., empathetic personality; Aw et al., 2020) and job-based differences (e.g., routineness of the job; Diefendorff et al., 2005) are associated with more authentic emotional displays. In the current investigation, by exploring whether mask wearing could potentially facilitate authentic emotional displays, we offer organizational interventions aimed at promoting this beneficial automatic emotion regulation strategy.

Finally, our research contributes to the literature by examining face-to-face interaction as a critical moderator of the effects of emotion regulation on employee strain. Specifically, we investigate the circumstances under which wearing a mask exerts a more positive impact on authentic display and emotional exhaustion. Previous research on emotion regulation has highlighted the social interaction model, which emphasizes the interpersonal processes involved in regulating emotions in the workplace (Coté, 2005). By demonstrating the salient role of face-to-face interaction, our study lends first empirical support to the argument that the characteristics of social interactions in the workplace and their interactions with different emotion regulation strategies must be considered when examining antecedents of different forms of emotion regulation and their impact on employee strain.

Theoretical Background and Hypotheses Development

Emotion Regulation and Authentic Emotional Displays

Emotion regulation refers to deliberate or automatic processes by which individuals influence the emotions they experience, when they experience them, and how they experience and express these emotions (Gross, 1998). Based on the extent to which it requires conscious effort to regulate, theorists have distinguished between two forms of emotion regulation – controlled versus automatic regulation (Grandey, 2000; Grandey & Melloy, 2017; Morris & Feldman, 1996). The former posits that emotion regulation necessitates cognitive resources such as attention and emotional effort (Grandey, 2000) and may even result in dissonance and tension when there is a discrepancy between expression and feelings (e.g., surface acting; Hochschild, 1983; Grandey, 2003), all of which can lead to emotional exhaustion (e.g., Abraham, 1998; Brotheridge & Grandey, 2002; Grandey, 2003; Morris & Feldman, 1996).

Recent research on emotion regulation suggests that emotion regulation could also be performed in an automatic way – authentic emotional displays (e.g., Ashforth & Humphrey, 1993; Diefendorff et al., 2005). Indeed, instead of actively ‘acting’ in a fake or effortful way, employees could choose to follow their feelings and express them authentically. Supporting this proposal, recent theoretical and empirical research on emotion regulation has documented that authentic emotional displays are a distinct way to regulate one’s emotions (Aw et al., 2020; Diefendorff et al., 2005; Grandey & Melloy, 2017; Hülshager et al., 2015; Humphrey et al., 2015). Moreover, contrary to the classic view of emotion regulation as a useful but stressful way to adjust or maintain one’s emotional expressions (e.g., Grandey & Gabriel, 2015; Kammeyer-Mueller et al., 2013), the authentic display of emotion has been proposed to have strong and clear associations with outcomes related to well-being because it enables employees to naturally feel their emotions without effortful regulation (e.g., Aw et al., 2020).

By focusing on this unique but powerful emotion regulation strategy, we aim to investigate whether mask wearing – a social norm introduced during the pandemic – would potentially enhance the chance to adopt authentic emotional display in the workplace, which in turn helps to lower employees' emotional exhaustion.

Mask Wearing and Authentic Emotional Displays

While the majority of mask-related research has emerged after the outbreak of COVID-19, masks have been used by human beings for thousands of years. The word mask, defined as 'something that conceals from view' (see Merriam-Webster Dictionary, n.d.), has roots in the Middle French word *masque*, meaning 'covering to hide or guard the face'. In ancient history, masks could be used to protect one's face when engaging in hunting, sports, or war (Dall, 1885), but, more profoundly, masks were used during rituals and ceremonies to help hide one's authentic expressions and express specific sacred emotions (e.g., awe; Pernet, 1992).

Rooted in the social and historical undercurrents of masks, mask wearing significantly impacts workplace social interactions in modern society. Researchers have found that facial expressions are associated with specific sets of facial features (Smith, Cottrell, Gosselin, & Schyns, 2005; Wegrzyn, Vogt, Kireclioglu, Schneider, & Kissler, 2017); when part of the face is covered (e.g., covering of the mouth), individuals' facial expressions (e.g., happiness) cannot be fully read. As mentioned above, research done during the pandemic has further confirmed that when a mask is worn, the accuracy of emotion recognition is significantly decreased even when the wearer is expressing basic emotions such as happiness, anger, disgust, sadness, or joy (e.g., Carbon, 2020; Genç, Colley, Löchtfeld, & Häkkinä, 2020).

While no direct evidence supports the association between mask wearing and emotion regulation, several lines of research lend credence to our hypotheses. First, the literature on emotion display rules and their powerful impact on emotion regulation (e.g., Diefendorff et al., 2005; Ekman, 1972) come into question when almost two-third of the face is covered underneath the cloth (Carbon, 2020) and emotional expressions are hard to read (e.g., Ekman, 1972). Supporting this argument, previous research has found that while Japanese participants adopt more effortful control – e.g., emotional suppression – when watching stressful films in comparison to US participants, the two groups' difference becomes smaller when they were put into an isolated cubicle where others could not see their faces (Ekman, 1972; Friesen, 1972).

Moreover, because masks block others from easily detecting the mask wearer's facial expressions (Carbon, 2020; Cypionka, Greenhalgh, Bassler, & Bryant, 2020; Grundmann, Epstude, & Scheibe, 2021), workers no longer remain fully concentrated on their outward appearance and are more comfortable with respecting and following their inner feelings (e.g., Grandey, Foo, Groth, & Goodwin, 2012; Szczesniak et al., 2020). Finally, masks also give workers an opportunity to authentically express their real feelings during face-to-face social interactions, since the lower half of the face is free to express any state they choose. These findings lead us to our first hypothesis.

Hypothesis 1 (H1): Mask wearing relates positively to authentic emotional displays.

Implications for Emotional Exhaustion

Emotional well-being, an important component of job burnout that is defined as a state of resource depletion and fatigue, has long been considered the important outcome of effortful emotion regulation (Grandey, 2000, 2003; Grandey & Melloy, 2017; Judge, Woolf, & Hurst, 2009; Maslach & Jackson, 1981; Mo & Shi, 2017). For example, surface acting – a regulation strategy that emphasizes purposeful control over one's outward emotional expressions – can be used to 'choke down' unwanted expressions and result in good organizational performance. However, this approach comes at a cost to employees' mental health, as it demands cognitive resources to monitor expressions and make deliberate adjustments (Grandey, 2003; Grandey & Gabriel, 2015; Sayre, Grandey, & Chi, 2020).

In contrast to effortful emotion regulation strategies, the authentic display of emotion does not require effortful expression monitoring or experience regulation. Instead, it encourages one to listen to their natural state and express this state in an organic way, which helps avoid self-incongruency and dissonance and introduces peace and contentment (Aw et al., 2020; Diefendorff et al., 2005; Hülshager et al., 2015; Humphrey et al., 2015). In one recent meta-analysis, researchers reviewed 75 studies with more than 30,000 participants and found that authenticity is robustly associated with higher levels of well-being and work engagement (Sutton, 2020). In a similar vein, researchers also found that authentic expressions of emotion can lead to positive need satisfaction and well-being, while inauthentic expressions are associated with lower autonomy and greater negative affect (Al-Khouja, Weinstein, Ryan, & Legate, 2022). Moreover, a study of general practitioners working in a large urban community in Spain found that using automatic emotion regulation strategies (i.e., authentic emotional displays) led to lower levels of emotional exhaustion, while controlled emotion regulation (i.e., surface acting) was associated with lower levels of well-being (Martínez-Iñigo, Totterdell, Alcover, & Holman, 2007). Finally, a recent empirical study conducted among employees working in a public hospital found that employees with higher levels of dispositional empathy reported more authentic emotional displays, which in turn led to higher levels of job satisfaction and work performance (Aw et al., 2020).

Hypothesis 2 (H2): Mask wearing is associated with lower levels of emotional exhaustion, mediated by increased authentic emotional displays.

The Moderating Role of Face-to-Face Interaction Frequency

Hypotheses 1 and 2 suggest that wearing a mask encourages authentic emotional displays and reduces emotional exhaustion in the workplace. We recognize, however, that the effects of mask wearing on emotion regulation are unlikely to be uniform across all circumstances. A central tenet of the social interaction model of the effects of emotion regulation on work strain (Coté, 2005) is that the upshot of emotion regulation in the workplace is not solely a product of an intrapersonal process; rather, it encompasses a feedback loop that involves both the sender and receiver and necessitates consideration of interpersonal interaction-related characteristics, such as the frequency of interaction (e.g., Rafaeli & Sutton, 1987, 1989). Guided by this theory, we specifically examined face-to-face interaction frequency and predicted that it would moderate the impact of wearing a mask on emotion regulation.

Face-to-face interaction frequency refers to the extent to which an employee's face can be observed by others in the workplace (e.g., Diefendorff et al., 2005; Kim, 2017; Morris & Feldman, 1996). By definition, it reflects the frequency of in-person social interactions related to specific tasks and is significantly associated with the overall demand of emotion regulation. Certain occupations, such as front-line workers, require frequent face-to-face social interactions. Employees in these fields must be more cautious with their outward emotional displays, which are frequently judged and monitored by receivers (Coté, 2005; Niven, 2016). As a result, these employees must regulate their emotions more frequently, often in an effortful manner (Ashforth & Humphrey, 1993; Brotheridge & Lee, 2003; Grove & Fisk, 1989; Morris & Feldman, 1996). On the other hand, some jobs (e.g., software engineers) do not necessitate frequent face-to-face communication, reducing pressure from the last part of the feedback loop. This affords senders more opportunities to display authentic emotions (Diefendorff et al., 2005).

Guided by the above theoretical analyses, we argue that jobs that require more frequent face-to-face interaction will benefit more from the positive effect of mask wearing. As mentioned earlier, when engaging in work that has a high frequency of face-to-face communication intensity, maskless workers have to closely monitor their emotions and sometimes hide their authentic displays, as these are crucial elements of a job (Leidner, 1999). As a consequence, those effortful regulation actions are thus more likely to result in a sense of exhaustion (Hülshager & Schewe, 2011; Judge et al., 2009; Mo & Shi, 2017), and ultimately, those companies will suffer from higher turnover rates (Chau, Dahling, Levy, & Diefendorff, 2009; Park & Min, 2020). However, if workers are wearing a mask when dealing with these tasks, the pressure from

monitoring one's outward emotional expression will be significantly reduced given that almost two-third of the face is hidden (Carbon, 2020) and many muscles are used to control emotional expressions (Ekman, 1972) become invisible. Working under a mask helps to alleviate the stress of effortful regulating emotional displays and encourages more authentic displays.

Hypothesis 3 (H3): The positive relationship between mask wearing and authentic emotional displays is only present when employees engage in face-to-face interaction.

Hypothesis 4 (H4): The indirect effect of mask wearing on emotional exhaustion via authentic emotional displays is only present when employees engage in face-to-face interaction.

Empirical Overview

We conducted two studies to test our hypotheses. Study 1 was exploratory in nature and conducted utilizing a Chinese online survey provider. Here, we were interested in testing our assumption that wearing masks could benefit employee's mental health at work (viz., emotional exhaustion). Study 2 was designed to understand the underlying mechanism between mask wearing and emotional exhaustion and the associated boundary condition. To accurately capture the real workplace dynamics, we conducted a three-wave field study with full-time employees in a single service company located in China.

Study 1: A Pilot Study

Samples and Procedures

Our participants were recruited online from Wenjuanxing, a Chinese survey company that provides professional data collection services to researchers and institutions (Deng, Coyle-Shapiro, & Yang, 2018). The data collection was conducted in winter 2020. At that time, China was experiencing a peak in COVID-19 cases. As a result, employees in China were advised to wear masks at their workplaces in various companies. We asked Wenjuanxing to send out online invitations only to full-time employees in its subject pool. At this point, 311 full-time employees who passed the screening tests agreed to participate in our study. To ensure data quality, we asked Wenjuanxing to include system-based attention check questions in each online survey, and only retain participants who passed the attention checks. Each participant was compensated with 10 Chinese yuan for successfully completing each survey. In the first questionnaire (Time 1 [T1]), employees responded to questions on mask-wearing behavior at work and their demographics. After one month (i.e., Time 2 [T2]), we asked employees to report their levels of emotional exhaustion at work. Collecting data from multiple time points is suggested to be an effective way to reduce potential common method bias (Podsakoff, MacKenzie, & Podsakoff, 2012). We received completed responses from 233 employees at Time 1 and 162 responses at Time 2. After matching the responses, our final sample includes 162 employees who successfully completed our two separate surveys (response rate: 69.5%). Out of the 162 employees, 51.9% were male, and 88.9% had a bachelor's degree. The average age was 32.67 years ($SD = 5.83$), and the average organizational tenure was 6.27 years ($SD = 4.43$). In our sample, 78% of participants indicated that their companies had issued a policy of wearing masks at work.

Measures

The item descriptions were presented in Chinese. We used the translation and back-translation procedure (Brislin, 1980) to translate the original English version of the emotional exhaustion scale into Chinese; the scale of mask wearing was originally developed in Chinese. Two native speakers of Chinese who were PhD candidates in management and fluent in English independently translated the scales. First, one PhD candidate translated the English version into Chinese. Second, the translated version was back-translated into English by the other PhD candidate. Differences in the translations were resolved through discussion.

Mask wearing

Since there were no readily available measures of mask-wearing behavior in the work context when we conducted this study, it was necessary to create a measure for this study. We generated three items to reflect the definition of an employee's mask-wearing behavior.¹ Participants were asked to rate their frequency of wearing masks at the workplace (1 = 'never', 7 = 'very frequently'). The items are: 'I wear a mask when I attend group meetings', 'I wear a mask when I communicate with my colleagues', and 'I wear a mask when I am performing my tasks'. The Cronbach's alpha (α) for this scale was 0.83.

Emotional exhaustion

To measure emotional exhaustion, we followed previous studies (e.g., Watkins, Ren, Umphress, Boswell, Triana, & Zardkoohi, 2015) by using a three-item emotional exhaustion scale from Maslach, Jackson, Leiter, Schaufeli, and Schwab (1986). We asked participants to indicate to what extent these items described their feelings during their work (1 = 'strongly disagree', 7 = 'strongly agree'). A sample is: 'I feel emotionally drained from my work' ($\alpha = 0.90$).

Control variables

As research suggests, women experience more emotional exhaustion than men (Pretty, McCarthy, & Catano, 1992), and older employees are less likely to experience emotional exhaustion (Ng & Feldman, 2010). Hence, we controlled for gender (0 = female, 1 = male) and age (*in years*) as control variables in our analyses.

Results

Table 1 represents the means, standard deviations, correlations, and reliability for the key variables in Study 1. As shown, employee mask wearing ($r = -0.31$, $p < 0.01$) was negatively correlated with emotional exhaustion. To test the relationship between mask wearing and emotional exhaustion, we performed ordinary least squares (OLS) regression analyses using SPSS. In support of our prediction, we found a significant negative relationship between mask wearing and emotional exhaustion ($B = -0.28$, $SE = 0.08$, $p < 0.01$).

Using two-wave data of full-time Chinese employees, Study 1 provides initial support for our basic assumption that wearing masks benefits employee's mental health (*viz.* emotional exhaustion). To understand why this is the case and under what situation this can happen, we conducted Study 2 to provide a specific test of our whole theoretical model.

Study 2: A Multi-Wave Field Study

Sample and Procedures

We recruited full-time employees from a service company located in northeastern China. This company provides comprehensive property management services, such as housing security guards, restaurants, and cleaning services. The data collection was conducted in spring 2022. At that time, the impact

Table 1. Means, standard deviations, and correlations of the variables (Study 1)

Variable	Mean	SD	1	2	3	4
1. Gender	0.52	0.50	–			
2. Age	32.67	5.83	0.08	–		
3. Mask wearing	5.13	1.42	0.10	0.24**	(0.83)	
4. Emotional exhaustion	3.17	1.42	–0.01	–0.20**	–0.31**	(0.90)

Notes: $N = 162$. SD = standard deviation. Gender: 0 = female, 1 = male. Cronbach's alphas are listed on the diagonal. *** $p < 0.01$ (two-tailed).

of COVID-19 was no longer a significant concern. Although wearing a mask was no longer mandatory, the company continued to advise employees to wear masks when it is necessary and distributed free masks to their employees every day. To proceed with our survey, we cooperated with the HR director of this company, who was enrolled as a part-time student in an Executive Development Program at a Northeastern university in China. The student will receive extra course credit and personalized feedback on the company's human resources status. We limited potential participants to the offline staff, whose work involves in-person communication. With the assistance of the HR director, we initially reached out to 288 random employees at the company. We solicited their participation by stating the research purpose, ensuring data confidentiality, and emphasizing participation voluntariness. Out of 288 contacted employees, 238 agreed to participate.

We took several steps to strengthen the data quality. First, each participant was assigned an exclusive code to ensure that the correct sources completed the surveys. Next, each participant received a sealed envelope containing a printed questionnaire in each wave, which was pre-sealed and marked with the exclusive code. Participants were instructed to return the questionnaire to the envelope after completing it. This procedure can ensure the participant's data confidentiality.

We collected data in three waves. At Time 1 (T1), employees responded to a questionnaire that contained measures of mask wearing, face-to-face communication, and demographic information. We sent the second survey two weeks later to reduce common method bias. At this time point (Time 2 [T2]), employees reported their authentic emotional displays. Two weeks later (Time 3 [T3]), the participants received a third questionnaire asking them to report their emotional exhaustion at work. After excluding participants who did not complete the questionnaire and dropping participants with missing data on our focal variables, our final sample consisted of 191 employees (response rate: 80.3%). Among these employees, about 60% were male. The average age was 37.67 years ($SD = 15.12$), and the average organizational tenure was 5.75 years ($SD = 5.19$). About 48.1% had a high school degree or below, 41.6% had a college degree, and 10.3% had a bachelor degree.

Measures

As in Study 1, the back-translation method was used to translate the scales from the English language version into Chinese. Two native speakers of Chinese who were doctoral students in management and fluent in English independently translated the scales. The scales were translated into Chinese by one doctoral student and then back-translated into English by another doctoral student. No major discrepancies were found in the translations, and differences in translation were resolved through discussion. Unless otherwise stated, the measures used a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*.

Mask wearing

As in Study 1, we measured mask wearing in the workplace with the same three items (1 = 'never', 7 = 'always'; $\alpha = 0.82$).

Face-to-face interaction

We used a three-item scale from Kim (2017) to measure face-to-face interaction. We slightly modified the words of this scale to fit the work context. Participants were then asked to respond to the listed statements, evaluating how frequently they do the following activities at work. A sample item was 'Interacting with people face-to-face at workplace'. Items were rated on a seven-point scale (1 = 'never', 7 = 'always'; $\alpha = 0.73$).

Authentic emotional displays

Participants rated their use of authentic emotion display in their interaction with people (e.g., customers, coworkers, supervisors, among others) in the workplace with a three-item scale from Diefendorff et al. (2005). The items were, 'The emotions I express to others are genuine', 'The emotions I show others come naturally', and 'The emotions I show others match what I spontaneously feel' ($\alpha = 0.70$).

Emotional exhaustion

As in Study 1, we measured the extent to which employees felt emotional exhaustion at work with the same three items ($\alpha = 0.93$).

Control variables

We considered potential control variables based on their theoretical relevance. First, as in Study 1, we controlled for age and gender. Second, we included organizational tenure (*in years*) as a potential control variable because employees with longer experience in an organization may feel fewer constraints to show authentic emotions and thus feel less emotionally exhausted (Shanock, Allen, Dunn, Baran, Scott, & Rogelberg, 2013). Third, perceived emotional display rule was controlled because it is suggested as one important type of job demand for employees and may trigger emotional exhaustion (Zhan, Wang, & Shi, 2016). Perceived emotional display rules ('Part of my job is to make others feel good') were measured at T1 with a seven-item scale (Diefendorff et al., 2005; $\alpha = 0.86$). Finally, we controlled for emotional exhaustion at baseline to model change in emotional exhaustion as predicted by mask wearing. The baseline emotional exhaustion was measured at T1 using the same scale as described above ($\alpha = 0.92$). The results of hypothesis testing remained unchanged when we excluded these controls. To facilitate interpretation, we included all controls in subsequent steps.

Results

Confirmatory Factor Analysis

Prior to testing our hypotheses, we conducted a confirmatory factor analysis (CFA) using Mplus to test the discriminant validity of the assessed six constructs: mask wearing, face-to-face interaction, emotional exhaustion (T1), perceived emotion display rule, authentic emotion display, and emotional exhaustion (T3). We used the parceling technique to improve our low sample size to items ratio (Aw et al., 2020; Baer, Dhensa-Kahlon, Colquitt, Rodell, Outlaw, & Long, 2015). Following the suggested procedures (Ogunfowora, Maerz, & Varty, 2021; Zhang, Wang, Nerstad, Ren, & Gao, 2022), we created parcels for the scales with six or more items. Specifically, we used three parcels as indicators of perceived emotion display rule. Based on the item-to-construct balance parceling strategy (Little, Cunningham, Shahar, & Widaman, 2002), we computed balanced parcels based on the factor loadings by pairing higher-loading items with lower-loading items. We did not create parcels for the scales of mask wearing, face-to-face interaction, authentic emotional displays, and emotional exhaustion due to their short length. The results revealed that the hypothesized six-factor model ($\chi^2(120) = 185.20$; CFI [comparative fit index] = 0.96; TLI [Tucker–Lewis index] = 0.95; RMSEA [root mean square error of approximation] = 0.05; SRMR [standardized root mean square residual] = 0.05) demonstrated a better fit than the alternative models (see Table 2 for more details). Thus, the distinctive nature of our study variables was supported.

Correlation Table

Table 3 represents the means, standard deviations, correlations, and reliability for the focal variables. As shown, mask wearing ($r = -0.14$, $p < 0.05$) was negatively correlated with emotional exhaustion, in line with the findings from Study 1.

Hypotheses Testing

To test the hypotheses, we conducted OLS regression analyses using SPSS. To test for indirect and conditional indirect effects, we adopted a bootstrapping procedure (20,000 bootstrap samples) using the PROCESS macro for SPSS (Hayes, 2013). The bootstrapping procedure does not assume the normality of the sampling distributions and generates bias-corrected confidence intervals (CIs) based on paths *a* (independent variable to mediator) and *b* (mediator to outcome variable) coefficient estimates (Preacher & Hayes, 2008).

Hypothesis 1 predicts that mask wearing has a positive effect on authentic emotional displays. In support of Hypothesis 1, results in Table 4 suggest that mask wearing positively related to authentic emotional displays ($B = 0.19$, $SE = 0.06$, $p < 0.01$).

Table 2. Comparison of measurement models (Study 2)

Models	χ^2 (df)	$\Delta\chi^2$ (Δ df) ^a	RMSEA	CFI	TLI	SRMR
The hypothesized model	185.20 (120)	–	0.05	0.96	0.95	0.05
Five-factor model (EET1 and EET3 combined)	457.75 (125)	272.55** (5)	0.12	0.81	0.77	0.08
Four-factor model (MW and FFI combined, EET1 and PEDR combined)	572.74 (129)	387.54** (9)	0.13	0.75	0.71	0.11
Three-factor model (MW, FFI, EET1, and PEDR combined)	839.82 (132)	654.62** (12)	0.17	0.60	0.54	0.15
Two-factor model (MW, FFI, EET1, and PEDR combined; AED and EET3 combined)	960.54 (134)	775.34** (14)	0.18	0.54	0.47	0.16
One-factor model (all the constructs combined)	1,223.67 (135)	1,038.47** (15)	0.21	0.39	0.31	0.16

Notes: $N = 191$. χ^2 = chi-square; df, degrees of freedom; MW = mask wearing; EET1 = emotional exhaustion at T1; PED = perceived emotional display rules; FFI = face-to-face interaction; AED = authentic emotional displays; EET3 = emotional exhaustion at T3. ^aAll models are compared with the hypothesized six-factor model. ** $p < 0.01$ (two-tailed).

Next, we tested the mediating pathway. As shown in Table 4, authentic emotional displays were negatively related to emotional exhaustion ($B = -0.15$, $SE = 0.07$, $p < 0.05$). Results from the bootstrapping procedure indicate that the indirect effect of mask wearing on emotional exhaustion via authentic emotional displays was significant (*indirect effect* = -0.03 , 95% confidence interval [CI] = $[-0.06, -0.003]$). Thus, Hypothesis 2 was supported.

Hypothesis 3 predicts that the positive relationship between mask wearing and authentic emotional displays is moderated by face-to-face interaction, such that this relationship appears only when employees engage in face-to-face interaction. We mean-centered the predictor and moderator to create a product term, which we used as the indicator of the interaction. Consistent with this hypothesis, Model 2 in Table 4 shows that the interaction effect was statistically significant ($B = 0.13$, $SE = 0.05$, $p < 0.05$). We subsequently plotted the interaction effect at high (1 SD above the mean) and low (1 SD below the mean) levels of face-to-face interaction (Aiken & West, 1991). As depicted in Figure 2, when face-to-face interaction was 'high', mask wearing appeared more positively related to authentic emotional displays (*simple slope* = 0.41 , $SE = 0.11$, $p < 0.01$). However, when face-to-face interaction was 'low', the relationship between mask wearing and authentic emotional displays was not significant (*simple slope* = 0.07 , $SE = 0.08$, *ns*). These results supported Hypothesis 3.

Hypothesis 4 posits that the relationship between mask wearing and emotional exhaustion was mediated by authentic emotional displays and moderated by face-to-face interaction. To test this hypothesis, we utilized the bootstrapping procedure to calculate conditional indirect effects at high (+1 SD) and low (-1 SD) levels of face-to-face interaction. The results indicate that the effect of mask wearing on emotional exhaustion mediated by authentic emotional displays was negative and significant when face-to-face interaction was 'high' (*indirect effect* = -0.06 , $SE = 0.03$, 95% CI = $[-0.13, -0.01]$), but not when it was 'low' (*indirect effect* = -0.01 , $SE = 0.01$, 95% CI = $[-0.04, 0.01]$). The difference between the indirect effects was significant (*difference* = -0.05 , $SE = 0.03$, 95% CI = $[-0.12, -0.01]$). Hypothesis 4 therefore received support.

Supplementary Analyses

Because wearing masks hides many visual cues in the face and may reduce the social pressure of expressing unwanted emotions, one may assume that wearing masks would decrease emotional exhaustion through reduced surface acting (an alternative to regulate one's outward emotional expressions). In order to exclude this possibility and show the robustness of our findings, we included surface acting as a controlled mediator alongside authentic emotional displays. Surface acting (At work, I hide

Table 3. Means, standard deviations, and correlations of the variables (Study 2)

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. Gender	0.60	0.49	–								
2. Age	37.67	15.12	0.21**	–							
3. Organizational tenure	5.75	5.19	0.32**	0.37**	–						
4. Perceived emotional display rules(T1)	4.32	1.32	–0.25**	–0.05	–0.05	(0.86)					
5. Emotional exhaustion (T1)	2.47	1.47	0.02	–0.09	–0.15*	0.13	(0.92)				
6. Mask wearing (T1)	6.22	1.09	–0.14	–0.02	–0.22**	–0.01	–0.03	(0.82)			
7. Face-to-face interaction (T1)	4.96	1.37	0.14*	–0.09	0.03	–0.25**	0.04	0.13	(0.73)		
8. Authentic emotional displays (T2)	4.59	0.93	0.04	0.12	0.07	–0.08	–0.08	0.20**	0.08	(0.70)	
9. Emotional exhaustion (T3)	2.09	1.08	–0.04	–0.20**	–0.13	0.03	0.58**	–0.14*	0.12	–0.21**	(0.93)

Notes: *N* = 191. SD = standard deviation. Gender: 0 = female, 1 = male. Cronbach's alphas are listed on the diagonal. **p* < 0.05, ***p* < 0.01 (two-tailed).

Table 4. Summary of regression results (Study 2)

Variable	Authentic emotional displays				Emotional exhaustion			
	Model 1		Model 2		Model 3		Model 4	
	<i>B</i>	SE	<i>B</i>	SE	<i>B</i>	SE	<i>B</i>	SE
Intercept	4.57**	0.11	4.57**	0.11	2.16**	0.11	2.85**	0.33
Controls								
Gender	0.03	0.15	-0.01	0.15	-0.11	0.14	-0.10	0.14
Age	0.01	0.01	0.01	0.01	-0.01*	0.01	-0.01*	0.004
Organizational tenure	0.01	0.02	0.02	0.02	-0.00	0.01	-0.00	0.01
Perceived emotional display rules	-0.04	0.05	-0.03	0.05	-0.05	0.05	-0.06	0.05
Baseline emotional exhaustion	-0.03	0.05	-0.03	0.05	0.42**	0.04	0.42**	0.04
Main effects								
Mask wearing	0.19**	0.06	0.24**	0.07	-0.14*	0.06	-0.11	0.06
Face-to-face interaction			0.02	0.05				
Interaction								
Mask wearing × Face-to-face interaction			0.13*	0.05				
Mediator								
Authentic emotional displays							-0.15*	0.07
<i>R</i> ²	0.07		0.10		0.38		0.40	
<i>R</i> ² change			0.03*				0.02*	

Notes: *N* = 191. SE = standard error. Unstandardized coefficients are reported in the table. **p* < 0.05, ***p* < 0.01 (two-tailed).

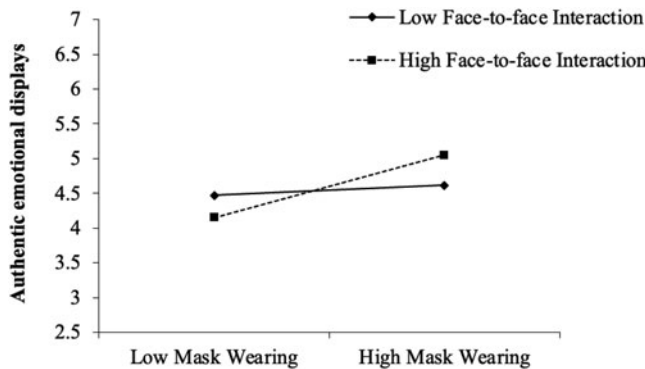


Figure 2. The moderating effect of face-to-face interaction on the relationship between mask wearing and authentic emotional displays (Study 2)

my true feelings about a situation’) was measured at T2 with a three-item scale from Brotheridge and Grandey (2002). Items were rated on a seven-point scale (1 = ‘strongly disagree’, 7 = ‘strongly agree’; $\alpha = 0.80$).

We included the aforementioned T1 control variables in our analyses. Our results showed that mask wearing was positively related to authentic emotional displays ($B = 0.19$, $SE = 0.06$, $p < 0.01$), but not related to surface acting ($B = -0.003$, $SE = 0.07$, *ns*). In addition, the results showed that after controlling surface acting, authentic emotional displays were still negatively related to emotional exhaustion

($B = -0.14$, $SE = 0.07$, $p < 0.05$), and that the indirect effect of mask wearing and emotional exhaustion via authentic emotional displays remained negative and significant (*indirect effect* = -0.03 , $SE = 0.01$, 95% $CI = [-0.06, -0.002]$). These results supported Hypothesis 1 and Hypothesis 2.

Supporting Hypothesis 3, the interaction between mask wearing and face-to-face interaction is significantly related to authentic emotional displays ($B = 0.13$, $SE = 0.05$, $p < 0.05$), but not significantly related to surface acting ($B = 0.09$, $SE = 0.06$, *ns*). Simple slope analyses showed that mask wearing was significantly related to authentic emotional displays ($B = 0.41$, $SE = 0.11$, $p < 0.01$) at 'high' (+1 SD) rather than at 'low' (-1 SD) levels of face-to-face interaction ($B = 0.07$, $SE = 0.08$, *ns*). Finally, we tested the conditional indirect effects of mask wearing at high (+1 SD) and low (-1 SD) levels of face-to-face interaction. The results showed that the indirect effect (mask wearing → authentic emotional displays → emotional exhaustion) was negative and significant at 'high' (*indirect effect* = -0.06 , $SE = 0.03$, 95% $CI = [-0.13, -0.003]$) but not 'low' (*indirect effect* = -0.01 , $SE = 0.01$, 95% $CI = [-0.04, 0.01]$) levels of face-to-face interaction. The difference between these indirect effects was significant (*difference* = -0.05 , $SE = 0.03$, 95% $CI = [-0.12, -0.002]$). Hence, Hypothesis 4 was supported.

Taken together, the results of these additional analyses demonstrated the robustness of our proposed model.

General Discussion

While numerous countries have officially declared an end to the COVID-19 public health emergency, public health experts continue to caution that the risk of new variants emerging and causing fresh surges in cases and fatalities remains. Consequently, people worldwide are still opting to wear a mask when they deem it necessary, and the use of masks in public is evolving into a norm (Rab, Javaid, Haleem, & Vaishya, 2020: 1617). Given this social prevalence extended to the workplace, the influence of mask wearing at work is an important issue that awaits further research. Based on the emotional labor as emotion regulation perspective (Grandey, 2000; Grandey & Melloy, 2017), the present study reveals that mask wearing at work has important consequences for employees' mental health. The results of two studies consistently revealed that wearing a mask at work positively affects reduced emotional exhaustion. This relationship is mediated through the increased levels of authentic emotional display. The findings also showed that when employees' work involves high levels of face-to-face interaction, wearing masks will more likely liberate them to show their authentic emotions and, in turn, lead to lower levels of emotional exhaustion. In the following sections, we discuss the implications of our findings.

Theoretical Contributions

Our research contributes to the literature in several ways. First, over the past decade, numerous psychological researchers have studied mask wearing in various life contexts (e.g., Betsch et al., 2020; Eikenberry et al., 2020; Leung et al., 2020; Ma et al., 2020). However, workplace mask wearing is still in its early stages, and there is much to learn about its processes and outcomes. Based on an emotion regulation perspective, our research provides a useful theoretical framework for organizational scientists to understand how and when wearing a mask can produce value in work settings. This complements the well-known medical functions of face masks, such as protecting people from infectious agents, pollutants, and viruses (Leung et al., 2020; O'Dowd et al., 2020; Rengasamy, Zhuang, & BerryAnn, 2004). In this sense, our research opened up a new perspective to understand the functions of face masks and study mask-wearing behavior within work organizations.

Second, our proposed framework, which integrates the actor's emotion regulation process and the situational role of face-to-face interaction, echoes and goes beyond prior theoretical views on mask wearing. Previous studies on mask wearing mostly asserted that covering one's face may hinder emotional information interpretation by the other party during interplay, thus influencing how they feel and act during interactions (Carbon, 2020; Molnar-Szakacs et al., 2021; Parada-Fernández et al., 2022). However, our research focused on how mask wearing affects the actor's emotional expression

and, subsequently, mental well-being. Understanding this issue is critical because employees are at risk of overstraining themselves at work, and covering one's face may positively influence how they feel, think, and act. Additionally, by introducing the role of authentic emotional display and face-to-face interaction in the positive effects of mask wearing, our studies increase the in-depth understanding of the value of masks in potential social interactions in crowded offices.

Third, the antecedents and outcomes of authentic emotional displays have far been largely ignored in emotion regulation studies (Aw et al., 2020), and scholars have increasingly called for more research on authentic emotional displays (Huang, Chiaburu, Zhang, Li, & Grandey, 2015; Humphrey et al., 2015). Our research responds to this call by shedding light on the role of authentic displays linking mask wearing and emotional exhaustion. We also uncovered face-to-face interaction as a pivotal moderator explaining when authentic emotional displays would likely happen. Doing so enriches the knowledge about the causes, boundary conditions, and consequences of authentic displays at the workplace. Besides, in the supplementary analyses, we found that wearing masks reduces emotional exhaustion because they enable employees to naturally display their emotions rather than fake out the desired emotions. This indicates that authentic emotional displays have unique psychological effects distinct from other types of emotion regulation strategies, such as surface acting. These results provide additional nuance on how people regulate their emotions when working with a mask and lend further support for the importance of including authentic emotional displays in emotion regulation theory and research.

Limitations and Future Research Directions

Across two studies, the current research provides a novel foundation for understanding the impact of mask wearing in the work context. However, we acknowledge that it is not without limitations, which future research could address. First, as with all studies using self-reported measures, there are concerns about common method bias. We attempted to minimize these concerns by including time separation between the focal variables during our data collection and ruling out some potential third variables. Nevertheless, we acknowledge that the internal validity of our findings was limited. Future research could establish the causality of our studied relationships by adopting experiments with manipulations and random assignments. Alternatively, a cross-lagged survey design could provide stronger causal inferences for our results.

A second limitation in our research pertains to the cultural setting – all of our studies are conducted in China. While the custom of wearing masks has prevailed in East Asia from the beginning of the pandemic, research has noted that mask wearing in the West has become politicized, leading to varying levels of acceptance and adherence to public health guidelines (Kahane, 2021). It may be possible that Chinese participants reported more positive attitudes toward mask-wearing behavior than participants from Western cultures. However, due to our shared experience of the COVID-19 pandemic, we surmise that there exists a strong consensus regarding the importance of using face masks, and the findings of the study may be extended to other cultures as well. Nevertheless, we encourage future scholars to examine whether the phenomenon we discovered in this study would continue to be evident in other countries and regions. Investigating our research model across other cultural contexts would thus strengthen the generalizability of this study's results.

Third, our research considers the foci of authentic displays in a holistic form (coworkers, customers, and supervisors, among others) because research suggests that employees are likely to express their true feelings in a diversity of interpersonal interactions when performing their organizational roles (Brotheridge & Lee, 2002; Ozcelik, 2013, 2017). However, it would be an interesting research avenue to specify the targets of authentic displays and explore whether the relationships in our model differ depending on whether employees' social interactions involve in-group (e.g., colleagues) versus out-group members (e.g., customers).

Fourth, while we have successfully identified the mental health benefits of mask wearing for employees based on the perspective of emotional labor as emotion regulation, it is important to acknowledge that the complete picture of mask wearing's influence on social interactions at work remains incompletely understood. To delve deeper into this area, future research could investigate

the effects of mask wearing on interpersonal outcomes, particularly exploring how customers perceive and interact with front-line workers who wear masks. The answers to this question may be multifaceted. On the one hand, masks might hinder the recognition of positive emotions like happiness, often conveyed through movements around the mouth, while not significantly affecting the perception of negative emotions like anger, which rely more on facial expressions in the upper face (Levitan et al., 2022). Therefore, customers might find it easier to identify negative rather than positive emotions when interacting with front-line workers, potentially resulting in lower levels of customer satisfaction. On the other hand, employees who choose to wear masks are often perceived as considerate and caring individuals (Lu et al., 2022). As a result, mask wearing can contribute to reducing discomfort during social interactions and fostering trust between employees and customers, ultimately leading to increased customer satisfaction. We encourage scholars to further enrich this line of research by providing additional insights into this question.

Practical Implications

We believe that our research findings offer several novel insights for practice. First, beyond the documented medical benefits of wearing a mask (Betsch et al., 2020; Eikenberry et al., 2020; Leung et al., 2020; Ma et al., 2020), our research found that wearing masks can preclude employees from being emotionally exhausted at work. Since employees' emotional exhaustion can be extremely detrimental to an organization, we recommend that organizations consider wearing masks as an effective way to prevent the spread of emotional exhaustion. While COVID-19 is no longer a major concern for people all around the world nowadays, it is important to remember that new variants of the virus continue to pose significant challenges to global health security. Therefore, as the situation continues to evolve, mask wearing remains an important health strategy in our society. We believe that the use of masks will remain and become a part of employees' behaviors at work.

More importantly, the COVID-19 pandemic has led to strict policies on wearing masks, which has helped to establish a social norm around mask wearing (Denworth, 2020). This increases the likelihood that people can make their own decisions about whether or not to wear masks, which is also evident in our empirical findings. Our empirical findings suggest that people are more likely to wear masks, even when not required to do so. We found consistent evidence that wearing masks has benefits for emotional exhaustion, suggesting that mask wearing may persist beyond the pandemic. Therefore, we recommend that managers and companies allow employees to freely choose whether or not to wear masks in the workplace, even after the pandemic ends.

Second, interactions with others may be prolonged and unavoidable in the workplace. Our results prove that mask-wearing produces benefits because it helps people to display their true felt emotions, especially among employees who need to engage in frequent face-to-face interactions during their daily work. These findings are particularly important for Chinese organizations because Chinese culture values emotion suppression as a way not to disturb the harmonious equilibrium of interpersonal transactions (Bond, 1993). As a result, employees in Chinese organizations feel great pressure to regulate their outward emotions and find it challenging to openly disclose authentic emotions in a crowd. Incorporating face masks as an effective practice to strengthen employees' emotional health through increased authenticity may further promote employees' job satisfaction and productivity beyond the pandemic. However, as mask wearing is not without its drawbacks, we caution that when educating employees about the positive impacts of the mask-wearing practice, practitioners should not magnify the benefits of wearing a mask but adopt a contingent perspective to understand the functions of masks.

Third, our study has practical implications for employees. Although some employees may hold negative attitudes toward wearing a mask, we suggest that they may overcome the psychological barriers of wearing one when performing their jobs at the workplace. This practice helps them protect their health and liberates their emotions with the lower half of their face invisible to the outside work environment, especially for those working with relatively high face-to-face interaction at the workplace.

Conclusion

Due to the outbreak of COVID-19, mask wearing has become a global phenomenon. It is possible that some countries, particularly in Asia, may shift their cultures to embrace mask wearing in public and organizations after this pandemic. Beyond highlighting the function of face masks for effectively reducing infection risks and maintaining good health, our research offers a novel insight to uncover the psychological consequences of mask wearing at work. We believe such an investigation extends our understanding of the potential positive impact of wearing masks in organizations.

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

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Note

1. In line with previous practice (Qin, Chen, Yam, Huang, & Ju, 2020), we used Hinkin (1998)'s suggested procedure to validate this measure. Specifically, we recruited an independent sample of 233 full-time Chinese employees from Credamo (a Chinese online survey platform) to evaluate the extent to which these three items matched the definition. All these participants work offline in the organizations. Among them, 97.4% have a bachelor's degree and most come from private-owned companies (73.4%). Their job functions vary across marketing sales, business operation, administration, and R&D, among others. Participants were asked to indicate the extent to which items were consistent with the provided definition of workplace mask wearing, using a 7-point scale: 1 = *not at all consistent* to 7 = *completely consistent*. The mean score was 5.61 (greater than 80% of 7.00), which compares favorably to those in other studies using this procedure (e.g., Rodell, 2013). Thus, these findings provided support for our created measure.

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