

RESEARCH ARTICLE

# Pandemic crisis and employee skills: how emotion regulation and improvisation limit the damaging effects of perceived pandemic threats on job performance

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## Abstract

This study details the possible escalation of employees' perceptions of pandemic threats into diminished job performance, while considering a mediating role of their sense of job insecurity and a moderating role of their emotion regulation and improvisation skills. Results based on multisource, three-wave data show that employees' perceived pandemic threats compromise their work-related performance, because they believe that their job is at risk. This mediating role of perceived job insecurity is mitigated by employees' greater ability to control their emotions and come up with novel ideas on the spot. This study accordingly pinpoints employees' conviction that they may not be able to keep their jobs as a crucial mechanism by which the hardships of a global pandemic generate negative performance consequences, as well as how organizations can contain this risk by helping employees hone their pertinent personal skills.

**Keywords:** Emotion regulation; improvisation; job insecurity; job performance; perceived pandemic threats

## Introduction

In reaction to global crisis situations, people suffer from the hindered quality of their own and their loved ones' personal lives (Hokyu & Höllner, 2020; Raja, Azeem, Haq, & Naseer, 2020; Swaminathan & Mishra, 2020). Organizations thus must consider the implications of crises for their workforces. For example, employees who perceive pandemic threats maintain negative beliefs that the pandemic crisis might never end and feel as if there is nothing they can do to prevent it (Caligiuri, De Cieri, Minbaeva, Verbeke, & Zimmermann, 2020; Hite & McDonald, 2020). As explicated by De Clercq and Pereira (2022a: 1), such pandemic threat perceptions capture the extent to which employees, exposed to the global spread of a lethal virus, 'sense threats to their personal well-being and experience diminished quality in their day-to-day lives and activities.' Perceived pandemic threats also critically affect employees' thoughts about and behaviors in their jobs. As recent research has established, these threats lead to higher emotional exhaustion (Lin, Shao, Li, Guo, & Zhan, 2021), higher work withdrawal (Chong, Huang, & Chang, 2020), lower work engagement (Liu, Chen, & Li, 2021), and lower job performance (Vaziri, Casper, Wayne, & Matthews, 2020). To add to this timely stream of research, we seek to unpack the relationship between employees' perceived pandemic threats and the probability that they underperform in their work tasks.

In particular, we investigate *how* and *when* employees' perceptions of pandemic threats may escalate into diminished job performance. First, we propose that these perceptions may combine

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with beliefs that their jobs could be at risk (Loi, Lam, & Chan, 2012; Wang, Tang, Naumann, & Wang, 2019). Employees' work-related feelings and behaviors tend to reflect their desire to preserve their resource bases and shield themselves against resource losses, as detailed by conservation of resources (COR) theory (Hobfoll, Halbesleben, Neveu, & Westman, 2018). Perceived pandemic threats might cause employees to fear for their stable employment, which Hobfoll (2001) identifies as a key resource in his discussion of COR theory. Such a fear tends to prompt people to find ways to cope and vent their negative thoughts, such as by forming stronger beliefs that their job is in jeopardy (Chen & Eyoum, 2021; Mauno & Kinnunen, 2002). But a sense of job insecurity also might, somewhat ironically, discourage employees' work efforts and undermine their performance, which could exacerbate their precarious job situation (Schreurs, van Emmerik, Günter, & Germeys, 2012; Shin & Hur, 2020).

Second, we rely on COR theory to postulate that the likelihood of negative work-related responses is contingent on whether employees possess valuable personal resources that help them counter the resource losses they suffer when they perceive pandemic threats (Hobfoll & Shirom, 2000). We investigate two such resources: emotion regulation and improvisation skills. Emotion regulation skills capture the extent to which employees can control their emotions in difficult situations (Jiang, Zhang, & Tjosvold, 2013); improvisation skills refer to their ability to respond swiftly to unanticipated situations (Vera & Crossan, 2005). We propose that these two resource sets may serve as protective shields against the negative thoughts that employees experience due to perceived pandemic threats. This consideration of emotion regulation and improvisation as *buffers* is consistent with COR theory (Hobfoll et al., 2018), in that these resources enable employees to avoid a scenario in which pandemic threats escalate into concerns about unstable employment (De Clercq & Pereira, 2022b; Hite & McDonald, 2020). In particular, emotion regulation skills allow employees to avoid negative feelings and remain relaxed in difficult circumstances (Chi & Liang, 2013); improvisation skills help people cope because they can react promptly to such circumstances (Nisula & Kianto, 2016).

Formally, we predict that the negative relationship between employees' perceptions of pandemic threats and their job performance, through their sense of job insecurity, should be less salient to the extent that employees are equipped with greater capabilities to control their emotions and improvise. Our focus on these resources is not random but rather is informed by their *complementary* effects. Emotion regulation skills are *covert* resources that enable employees to put negative situations into perspective and subdue the associated hardships (Bai, Lin, & Wang, 2016; Buruck, Dörfel, Kugler, & Brom, 2016). Improvisation skills instead are *overt* resources that serve as capabilities to come up with new ideas on the spot and address challenges expediently (Batista, Clegg, Pina e Cunha, Giustiniano, & Rego, 2016; Flach, 2014). By examining these two individual contingency factors, we provide a logical, encompassing description of how employees' possession of pertinent personal resources may help them avoid diminished job performance in response to perceived pandemic threats, as informed by their convictions that their jobs are at risk (Chiu, Lin, & Han, 2015; Hobfoll & Shirom, 2000). That is, emotion regulation and improvisation skills, in tandem, form a pertinent, complementary set of factors that shield employees from work-related challenges that arise with a pandemic crisis.

### Contributions

With this conceptual grounding, we aim to make several contributions. First, we explicate why personal hardships caused by a pandemic crisis may steer employees away from productive work behaviors: They form beliefs that their jobs are in jeopardy (Kraimer, Wayne, Liden, & Sparrowe, 2005). Previous studies of the work-related challenges that stem from other external crisis situations, such as terrorism, indicate that employees exhibit a lower propensity to perform their job duties because they suffer from insomnia (Toker, Laurence, & Fried, 2015), anxiety (De Clercq, Haq, & Azeem, 2017), or post-traumatic stress disorder (Mushtaq & Rehman, 2016).

A global pandemic may similarly increase employee job insecurity, resulting in reduced performance. Employees who experience a pandemic as highly upsetting for their personal lives may channel their negative thoughts toward their employer by developing a fear of job loss, which then escalates into diminished job performance (Quinn, Spreitzer, & Lam, 2012; Shin & Hur, 2020). We accordingly identify a potential counterproductive *spiral*, in which employees who experience pandemic threats develop negative beliefs about their job situation, and then underperform at work – an outcome that likely is ill-received by organizational leaders and might generate even more professional and personal difficulties for them (Bozionelos et al., 2016).

Second, we address calls to apply contingency perspectives to understand employees' responses to external crisis situations (Chong, Huang, & Chang, 2020; Raja et al., 2020). In particular, the risk of diminished job performance, in reaction to perceived pandemic threats and subsequent worries about job loss, may be curtailed to the extent that employees are able to control their emotions (Jiang, Zhang, & Tjosvold, 2013) and generate impromptu solutions to problems (Nisula & Kianto, 2016). These personal resources help employees cope with their pandemic threat perceptions and subsequent sense of job insecurity, such that it becomes less likely that their negative thoughts escalate into underperformance (Hobfoll et al., 2018). Prior research indicates buffering roles of religiosity (De Clercq, Haq, & Azeem, 2017), supportive peer relationships (Toker, Laurence, & Fried, 2015), and passion for work (Haq, De Clercq, & Azeem, 2019) in shielding employees from the challenges of expected terrorism attacks, as well as similar buffering roles of organizational adaptive practice (Lin et al., 2021) and telework task support (Chong, Huang, & Chang, 2020) in the presence of a pandemic. We add to this research by establishing that emotion regulation and improvisation skills can subdue the mediating effect by which a sense of job insecurity links perceived pandemic threats to lower job performance. These insights also extend research that indicates beneficial roles of emotion regulation and innovative abilities for overcoming the challenges of abusive supervision (Chi & Liang, 2013) and role ambiguity (De Clercq & Belausteguigoitia, 2017), respectively.

## Theoretical background and hypotheses

### **COR theory**

The logic for the proposed mediating role of job insecurity and moderating roles of emotion regulation and improvisation skills is grounded in COR theory (Hobfoll, 2001; Hobfoll et al., 2018). According to this theory, employees' job-related beliefs and behaviors largely reflect their motivation to protect their current resource bases and prevent further resource losses in the presence of resource-draining situations, whether within or outside the work realm (De Clercq, 2020; Toker, Laurence, & Fried, 2015). This argument in turn informs two critical premises. First, the threat of resource depletion caused by difficult circumstances guides employees toward convictions and actions that enable them to *cope* with the difficulties (Bentein, Guerrero, Jourdain, & Chênevert, 2017; Pandey, Nambudiri, Selvaraj, & Sath, 2021). Second, personal factors can *buffer* this process, by making it less probable that the encountered challenges generate actual harm to the quality of the employees' professional functioning (Garcia, Bordia, Restubog, & Caines, 2018; Toker, Laurence, & Fried, 2015).

The term 'resources' is conceived broadly in COR theory, in that it entails any 'objects, personal characteristics, conditions, or energies that are valued in their own right, or that are valued because they act as conduits to the achievement or protection of valued resources' (Hobfoll, 2001: 339). One critical resource with particularly strong value is employees' sense that their employment is stable (Hobfoll, 2001). According to prior research on crises, such as terrorism (Toker, Laurence, & Fried, 2015) or pandemics (Chong, Huang, & Chang, 2020), the threats that emanate from excruciating crisis situations generate negative thoughts and behaviors in employees, as a means to deal with the experienced hardships. Consistent with the aforementioned first COR premise, we propose that employees' sense of job insecurity and subsequent propensity to avoid performance-enhancing

work efforts may serve as coping strategies that allow them to express concerns about their employment situation, which arise due to a pandemic crisis (Chong, Huang, & Chang, 2020; Hobfoll *et al.*, 2018). Furthermore, in line with the second COR premise, the likelihood that employees who perceive pandemic threats turn to such coping strategies is subdued if they also possess valuable personal resources – such as emotional regulation (Jiang, Zhang, & Tjosvold, 2013) or improvisation (Vera & Crossan, 2005) skills – that make self-protective reactions seem less needed (Andel, Arvan, & Shen, 2021).

### **Application beyond pandemics**

Although we conduct this study in relation to the conditions created by a pandemic crisis, such as COVID-19, the arguments are not limited to employees' responses to a pandemic crisis in particular. Rather, this study context offers a highly relevant testing ground: COVID-19 came on rapidly, is deeply upsetting, affects employees and organizations all around the world, and threatens to continue to impose challenges as it morphs into different forms (Hite & McDonald, 2020; Sanders, Nguyen, Bouckenoghe, Rafferty, & Schwarz, 2020). In this sense, studying COVID-19 shows how the conceptual arguments we propose are not limited to any specific crisis setting. We anticipate that the theorized relationships apply to various crisis types, with similar signs, even if their *strength* might vary. The coronavirus, as an invasive calamity, enables us to investigate how and when employees' immediate confrontation with an external crisis affects their job-related thoughts and actions (Lin *et al.*, 2021), but it also has implications for employees' long-term work functioning and goals, enabling us to consider this parallel effect too (Narayanan, Wokutch, Ghobadian, & O'Regan, 2021).

### **Conceptual framework**

In the proposed framework in Figure 1, perceived pandemic threats generate a sense in employees that their jobs are at risk, which negatively influences their job performance. This process is

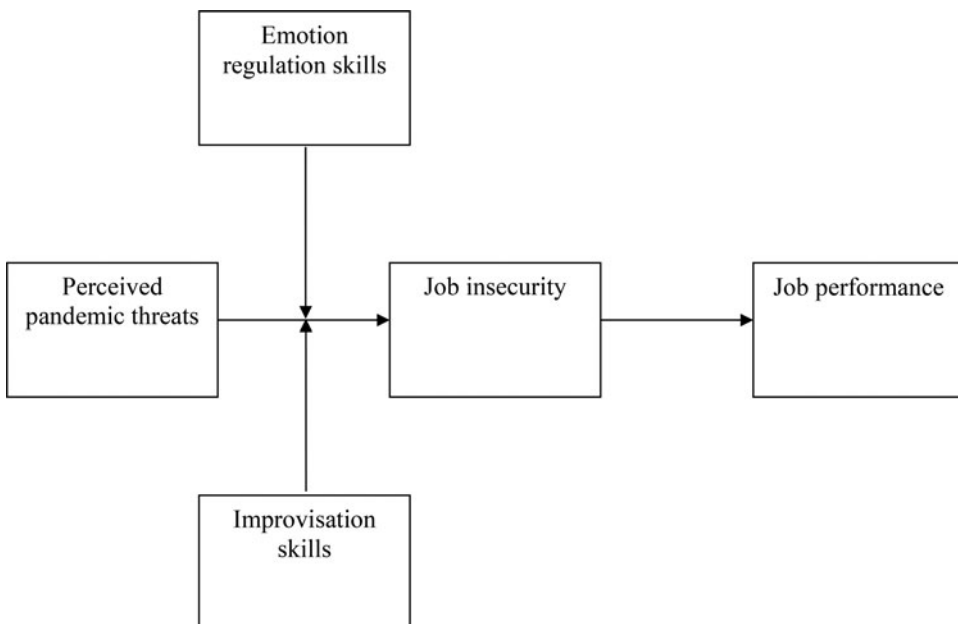


Figure 1. Conceptual model.

mitigated by their emotion regulation and improvisation skills; the conversion of the threats into tarnished performance, through experienced job security, is less likely among employees who are emotionally skilled (De Clercq & Belausteguigoitia, 2020) or able to act promptly in challenging scenarios (Flach, 2014). As noted, with its theoretical grounding in the well-established COR theory (Hobfoll et al., 2018), the framework and its constitutive relationships should be universal and applicable to various external crises, but to ensure focus in our arguments, we refer to employees' responses to the contemporary pandemic crisis as the specific context.

### **Mediating role of job insecurity**

We predict a positive relationship between employees' perceived pandemic threats and their beliefs that their job situation is in jeopardy. As mentioned, COR theory postulates that employees' job-related beliefs in resource-depleting situations establish motivations to find ways to deal with the challenges that protect their remaining resources (Hobfoll & Shirom, 2000). For example, in the presence of a pandemic crisis, employees likely suffer drained resources in terms of unstable employment (Hobfoll, 2001), because they fear that the crisis may compromise the competitive positioning of their employing organization (De Clercq & Pereira, 2022b). We do not examine this fear of competitive hardship directly, but we address it indirectly by theorizing about its consequences for employees' beliefs about the insecurity of their job situation. In particular, when they perceive a pandemic crisis as highly threatening, employees likely seek to express negative thoughts about their employment situation by pointing to the risk of job loss (Chen & Eyoum, 2021; Lin et al., 2021). A sense of job insecurity serves as a coping mechanism that enables employees to vent concerns about what their future holds, in the presence of a pandemic crisis (Abbas, Malik, & Sarwat, 2021; Mauno & Kinnunen, 2002). We accordingly hypothesize:

**Hypothesis 1:** There is a positive relationship between employees' perceived pandemic threats and their sense of job insecurity.

The logic of COR theory similarly suggests that employees who fear for the longevity of their jobs may exhibit lower job performance, which seems like a justified response to a disappointing, precarious situation (Cheung, Gong, & Huang, 2016; Hobfoll & Shirom, 2000). If a sense of job insecurity translates into diminished performance-enhancing work efforts, these reactions help employees cope with their uncertain work situation (Peiró, Sora, & Caballer, 2012; Shin & Hur, 2020). In essence, their fear about possible job loss undermines their willingness to allocate energy resources to constructive work activities that otherwise would add to their employer's success (Quinn, Spreitzer, & Lam, 2012). This argument is consistent with previous research that shows how a sense of job insecurity reduces job performance because employees become less engaged with their work (Wang, Lu, & Siu, 2015). If employees are uncertain about whether they can keep their jobs, they likely limit their productive work behaviors and exhibit lower job performance. We therefore posit:

**Hypothesis 2:** There is negative relationship between employees' sense of job insecurity and their job performance.

Integrating these arguments in turn indicates that employees' sense of job insecurity may be a critical mediator of the link between their perceptions of pandemic threats and their diminished job performance. Our mediation logic builds on and extends the two previous hypotheses. It explicates how perceptions about pandemic threats connect negatively to work performance, *through* the beliefs that employees form about having an insecure job situation, which represents a means to cope with their negative thoughts (Chen & Eyoum, 2021; Hobfoll, 2001). That is, the

escalation of perceived pandemic threats into thwarted job performance can be *explained* by employees' conviction that they may lose their jobs. Prior research proposes a similar mediating role of job insecurity in the connection between difficult situations in the work realm – such as supervisor incivility (Shin & Hur, 2020) or underemployment (Peiró, Sora, & Caballer, 2012) – and detrimental work outcomes. We complement these insights by postulating that employees' convictions that their job is in jeopardy mediate the relationship between their perceptions of pandemic threats and job performance. As explicated previously, these perceptions may fuel concerns about the competitive positioning or survival of their employer, such that employees become concerned about the sustainability of their job situation (De Clercq & Pereira, 2022b; Lin et al., 2021). This sense of job insecurity may cause employees to shoot themselves in the proverbial foot, by adopting work behaviors that undermine their performance ratings and cause even more hardships (Greenhaus & Parasuraman, 1993).

**Hypothesis 3:** Employees' sense of job insecurity mediates the relationship between their perceived pandemic threats and job performance.

#### ***Moderating role of emotion regulation skills***

We predict that employees' emotion regulation skills may buffer the relationship between their perceived pandemic threats and sense of job insecurity. According to COR theory, the resource-depleting effect of adverse situations, including those that originate outside work, diminishes to the extent that employees have access to pertinent personal resources that protect them against the resource depletion (Hobfoll et al., 2018; Ralston et al., 2010). Employees who have a good grasp on their own emotions should be better positioned to deal with negative thoughts about an unstable employment situation caused by a pandemic crisis, because they are better placed to *suppress* these thoughts (Buruck et al., 2016; Jiang, Zhang, & Tjosvold, 2013). In turn, they likely experience a lower need to express frustrations about their job being in jeopardy, as a means to cope (Chen & Eyoum, 2021). Moreover, these employees have a greater ability to put difficult circumstances into perspective and to acknowledge that others may suffer from similar hardships (Chi & Liang, 2013). In our study context, this logic implies they may be less fatalistic about the pandemic's interference with their job situation, making it less likely that perceptions of pandemic threats escalate into beliefs about the possibilities of job loss (Lin et al., 2021).

In combination with the mediating role of job insecurity, this buffering role of emotion regulation skills indicates the presence of a moderated mediation effect (Hayes & Rockwood, 2020). These skills function as critical buffers of the *indirect* relationship between employees' perceived pandemic threats and their job performance, through their concern about not having a secure job. Employees with emotion regulation skills can mitigate the mechanism by which their sense of job insecurity informs an indirect, detrimental effect of resource-draining pandemic threats on their job performance (Hobfoll et al., 2018; Shin & Hur, 2020). Formally, the ability to control their own emotions decreases the chances that their perceptions of pandemic threats escalate into lower job performance, due to their belief that they are likely to lose their jobs (Vaziri et al., 2020).

**Hypothesis 4:** The indirect relationship between employees' perceived pandemic threats and job performance, through their sense of job insecurity, is moderated by their emotion regulation skills, such that this indirect relationship is weaker among employees with stronger emotion regulation skills.

#### ***Moderating role of improvisation skills***

We again draw from COR theory to postulate that employees' improvisation skills moderate the relationship between perceived pandemic threats and job insecurity. Employees' improvisation

skills, which spur the immediate development of new ideas (Vera & Crossan, 2005), may enable them to identify effective solutions that prevent perceived pandemic threats from heightening their negative beliefs about their employment situation (Hobfoll et al., 2018). In particular, employees equipped with improvisation skills may consider these threats as opportunities to prove themselves – such as by undertaking efforts to help their organization address the challenges it faces due to the pandemic crisis (Flach, 2014; Vera & Crossan, 2004) – so they experience a lower need to cope by expressing frustrations about their job being in danger (Chen & Eyoum, 2021). For example, they might use online platforms creatively to communicate remotely with colleagues, find novel ways to balance job and family demands when working from home, or develop new routes to get products delivered to customers (Jamal, Anwar, Nawab, & Saleem, 2021; Vaziri et al., 2020; Zhang, Yu, & Marin, 2021). Employees who can act promptly in response to problems may regard a crisis as a positive challenge that they can actively tackle with impromptu activities (Leybourne, 2006; Vera & Crossan, 2005). In turn, it becomes less likely that they develop negative thoughts about their ability to keep their jobs.

Similar to the case of emotion regulation skills, the mitigating role of improvisation skills, in tandem with the intermediate effect of job insecurity, suggests a moderated mediation dynamic, such that these contingency factors mitigate the mediated link between perceived pandemic threats and job performance. Employees with a capacity to formulate impromptu reactions in difficult situations can subdue the effect of enhanced job insecurity on the connection between resource-depleting pandemic threats and diminished performance (Hobfoll & Shirom, 2000; Nisula & Kianto, 2016). Their ability to come up with new ideas on the spot decreases the probability that persistent worries about a pandemic escalate into lower job performance due to beliefs that their job is in jeopardy. These employees can protect themselves effectively against the challenges of perceived pandemic threats, so they experience a weaker need to unleash their negative thoughts on their organization by developing beliefs about job insecurity and staying away from performance-enhancing work behaviors (Hobfoll et al., 2018; Quinn, Spreitzer, & Lam, 2012).

**Hypothesis 5:** The indirect relationship between employees' perceived pandemic threats and job performance, through their sense of job insecurity, is moderated by their improvisation skills, such that this indirect relationship is weaker among employees with stronger improvisation skills.

## Research methodology

### *Data and sample*

The research hypotheses were tested with survey data collected in the summer of 2020 among Pakistani-based employees who operate in three sectors: banking, education, and telecom. The inclusion of more than one sector increases the external validity of the study. Furthermore, even if the hypotheses are country-neutral, and the signs of the theorized relationships are not expected to vary across countries, Pakistan offers a particularly relevant context, due to its pertinent cultural and economic factors. In particular, its elevated levels of uncertainty avoidance suggest that uncertainty-inducing, crisis situations likely cause significant hardships for employees, which they may seek to release in work settings (Hofstede, Hofstede, & Minkov, 2010). Moreover, the economic situation of Pakistan is precarious, and COVID-19 has had significant impacts on its competitiveness and economic performance, so organizations experience strong survival pressures and may be compelled to lay off employees (Khan, Khan, Maqsood, Hussain, & Noor-ul-Huda, 2020; Meo, Sabir, Chaudhry, Batool, & Farooq, 2021; Safdar & Yasmin, 2020). An investigation of how employees respond to the pandemic crisis with beliefs about an insecure job situation, and the possible mitigating role of pertinent personal skills, thus is timely and valuable in this setting.

One of the members of the research team leveraged professional contacts to find organizations willing to participate. The research participants were contacted via email and completed the

surveys electronically. Several measures were undertaken to protect the rights of these participants. In particular, they were guaranteed complete confidentiality, with an emphasis on the reassurance that only the research team would ever have access to their responses. Their employing organizations also would not know who participated. Furthermore, the clearly stated research objective was to detect general patterns instead of pinpointing any individual cases. We also indicated that there were no good or bad answers, that it was crucial that they provided their honest answers, and that they could withdraw from the study at any time they wished. These reassurances diminish the likelihood that people's responses are biased by acquiescence or social desirability considerations (Spector, 2006).

The three-wave research design included time lags of 3 weeks between each wave. The first survey captured employees' experiences with COVID-19 and their emotion regulation and improvisation skills; the second survey gauged their sense of job insecurity; the third survey assessed their job performance, as evaluated by their supervisors. The reliance on supervisor ratings decreases the risk of common source bias and social desirability bias, such that participants might inflate their self-assessed performance to look more capable (Malhotra, 2010). To avoid concerns linked to nested data, we sent the employee surveys to the broadest set of work units possible in each organization. In line with previous studies (e.g., De Clercq, Jahanzeb, & Fatima, 2022; Naseer, Raja, Syed, Donia, & Darr, 2016), if two respondents shared the same supervisor, which was rare, we asked the supervisor to forward the survey to a peer, familiar with the work contributions of one of the respondents and who had not participated in another employee survey.

Of the 400 originally administered surveys, 347 were returned in the first wave, 293 in the second wave, and 236 in the third wave. After removing surveys with incomplete data, we retained 226 completed sets of surveys, reflecting a response rate of 56%. There were no significant differences between respondents and nonrespondents in a given survey round, in terms of the construct scores obtained in the previous survey round, which diminishes concerns about attrition bias (Malhotra, 2010). The final sample consisted of 47% women; the average age of the participants was 30 years; they had worked for their organization for an average of 5 years; 51% had an administrative function, 21% a marketing function, and 28% an operational function<sup>1</sup>; and 25% worked in banking, 37% in education, and 38% in the telecom sector. All participants worked full-time for their organization at the time of the data collection.

### **Measures**

The constructs were assessed with 5-point Likert anchors that ranged from 1 ('strongly disagree') to 5 ('strongly agree').

#### *Perceived pandemic threats*

We assessed the extent to which employees perceive a pandemic as threatening to their personal well-being by using a 13-item scale of perceived pandemic threats (De Clercq & Pereira, 2022a), based on a scale of perceived terrorism threats (Raja et al., 2020; Sinclair & LoCicero, 2006). Two example items were 'I frequently think about the threat of COVID19' and 'The threat of COVID19 often enters my mind' (Cronbach's  $\alpha = .80$ ).

#### *Emotion regulation skills*

To assess the extent to which employees can control their emotions, we applied a four-item scale of emotion regulation skills (Jiang, Zhang, & Tjosvold, 2013). The participants rated, for example, whether 'I am quite capable of controlling my own emotions' and 'I have good control of my own emotions' (Cronbach's  $\alpha = .79$ ).

<sup>1</sup>The operational function included teaching for those respondents who worked in the education sector.



### *Improvisation skills*

We assessed the extent to which employees can think of solutions to problem situations on the spot with a seven-item scale of improvisation (Vera & Crossan, 2005). Due to our focus on the extent to which employees are skilled, instead of the extent to which they engage in improvisational behaviors, we adapted the original wording to reflect improvisation *abilities*, such as ‘I am able to respond in the moment to unexpected problems’ and ‘I am able to deal with unanticipated events on the spot’ (Cronbach’s  $\alpha = .71$ ).

### *Job insecurity*

To measure employees’ convictions that their job is at risk, we applied a five-item, reverse-coded scale of job security (Loi, Lam, & Chan, 2012). In light of our theoretical interest in how employees form beliefs about whether their organization offers them a stable job situation, we slightly adapted the original wording to refer to the role of their organization. Respondents thus rated their agreement with items such as ‘My organization ensures that I will be able to work here as long as I wish,’ ‘My organization ensures that my job will be there as long as I want,’ and ‘Regardless of economic conditions, my organization ensures that I have a job’ (Cronbach’s  $\alpha = .77$ )<sup>2</sup>.

### *Job performance*

To assess the extent to which employees undertake performance-enhancing work efforts, we applied a seven-item scale of job performance, as rated by their supervisors (Williams & Anderson, 1991). Including supervisor ratings helps limit concerns about the presence of common source bias. Two sample items were ‘This employee fulfills the responsibilities specified in his/her job description’ and ‘This employee meets formal performance requirements of the job’ (Cronbach’s  $\alpha = .93$ ).

### *Control variables*

The statistical analyses included five control variables: gender (1 = female), age (in years), organizational tenure (in years), job function (three dummies: administrative, marketing, or operational function, with the latter as the base category), and industry (three dummies: banking, education, and telecom, with the latter as the base category). Some jobs or sectors may be more affected by the pandemic crisis than others (Abbas, Malik, & Sarwat, 2021; Chen & Eyoun, 2021) or may be more or less open to the application of emotion regulation and improvisation skills (Buruck et al., 2016; Flach, 2014), which prompts our inclusion of the latter two control variables.

### *Statistical analysis*

We relied on the SPSS Process macro to test the hypotheses (Hayes, Montoya, & Rockwood, 2017). It provides estimates of individual paths, together with a comprehensive assessment of mediation and moderated mediation effects. A critical characteristic of the Process procedure, compared with its Sobel equivalent, is that it does not make assumptions about the presence of normality for the (conditional) indirect effects. Instead, it relies on a bootstrapping procedure in which the distributions of the effects may be asymmetric and deviate from a normal distribution (MacKinnon, Lockwood, & Williams, 2004). To assess mediation formally, we calculated the

<sup>2</sup>The addition of the phrase ‘my organization ensures’ was purposefully kept general, such that low scores on the measurement items do not necessarily imply that employees blame their organization for the risk of job loss. Due to the scope of the items, low scores instead reflect employees’ general beliefs that their organization does not offer them a secure job position, which might be due to external factors over which the organization has limited control or internal practices that are within its control.

indirect relationship between perceived pandemic threats and job performance, through job insecurity, together with the associated confidence interval (CI), based on the Process macro's Model 4. This first step also assessed the signs and significance levels of the corresponding direct paths between perceived pandemic threats and job insecurity and between job insecurity and job performance. In a second step, we assessed whether moderated mediation existed, by calculating the conditional indirect effects of perceived pandemic threats (and their associated CIs) at different levels of emotion regulation skills and improvisation skills. As specified in the Process macro, these CIs include three scenarios: the moderators operate at one standard deviation (SD) below their mean, at their mean, or at one SD above their mean. Consistent with the proposed theoretical framework, these estimations relied on Model 7 in the Process macro; they include the moderating effects of emotion regulation skills and improvisation skills on the relationship between perceived pandemic threats and job insecurity, but not between the relationship between job insecurity and job performance.

## Results

Table 1 contains the correlations and descriptive statistics. Table 2 reports the mediation findings, and Tables 3 and 4 provide the moderated mediation findings, generated with the Process macro. In line with previous research and recommendations (De Clercq, Sofyan, Shang, & Espinal Romani, 2021; Hayes & Rockwood, 2020), we report the  $R^2$  and  $F$ -values for each of the estimated models. The  $F$ -values are all strongly significant ( $p < .001$ ), which indicates that the model predictions are meaningful. In Table 2, we find that perceived pandemic threats enhanced job insecurity ( $\beta = .18$ ,  $p < .05$ , Hypothesis 1), which diminished job performance ( $\beta = -.21$ ,  $p < .01$ , Hypothesis 2). The assessment of mediation indicates an effect size of  $-.04$  for the indirect relationship between perceived pandemic threats and job performance through job insecurity; its CI does not include zero  $[-.09$  to  $-.002]$ , in support of the presence of mediation (Hypothesis 3).

The Process macro results in Table 3 indicate a negative, significant effect of the perceived pandemic threats  $\times$  emotion regulation skills interaction term in predicting job insecurity ( $\beta = -.21$ ,  $p < .01$ ). In particular, the positive relationship between perceived pandemic threats and job insecurity became weaker at increasing levels of emotion regulation skills (.40 at one SD below, .20 at the mean, and  $-.01$  at one SD above). The CIs did not span zero at the two lower values of the moderator ( $[-.17$ – $.63]$  and  $[.04$ – $.35]$ , respectively), but the CI included zero at the highest level  $[-.22$  to  $.20]$ , which indicates that in this latter scenario, the effect was not significant. To formally evaluate moderated mediation, we compare the strength of the conditional indirect relationship between perceived pandemic threats and job performance through job insecurity at different levels of emotion regulation skills. Table 3 reveals the decreasing effect sizes at higher levels of the moderator: from  $-.08$  at one SD below the mean, to  $-.04$  at the mean, to  $.002$  at one SD above the mean. The CIs did not include zero at the two lowest values of the moderator ( $[-.18$  to  $-.01]$  and  $[-.09$  to  $-.003]$ , respectively) but did include zero at the most elevated level  $[-.04$  to  $.06]$ . We also calculated the index of moderation, which quantifies how indirect effect sizes vary across different levels of a moderator; if the CI of the index does not include zero, the moderator meaningfully changes the mediating effect (Hayes, 2015). We found that the estimated index of moderated mediation was  $.04$  in this case, and its corresponding CI did not include zero  $[.003$ – $.10]$ . These results provide support for Hypothesis 4.

Table 4 indicates a negative, significant effect of the perceived pandemic threats  $\times$  improvisation skills interaction term ( $\beta = -.21$ ,  $p < .05$ ) for predicting job insecurity. The positive relationship between perceived pandemic threats and job insecurity became subdued at higher levels of improvisation skills (.32 at one SD below, .17 at the mean, and  $-.02$  at one SD above). The CIs did not include zero at the two lower levels of these skills ( $[-.11$ – $.54]$  and  $[.01$ – $.32]$ , respectively), but it spanned zero at the highest level  $[-.20$  to  $.24]$ . The assessment of moderated mediation

**Table 1.** Correlation table and descriptive statistics

	1	2	3	4	5	6	7	8	9	10	11	12
1. Perceived pandemic threats												
2. Emotion regulation skills	-.33**											
3. Improvisation skills	-.08	.50**										
4. Job insecurity	.27**	-.47**	-.57**									
5. Job performance	-.28**	.43**	.37**	-.42**								
6. Gender (1 = female)	-.03	.01	.07	-.11	.11							
7. Age	.29**	-.25**	-.23**	.28**	-.12	-.12						
8. Organizational tenure	.02	.00	-.05	.08	-.10	-.04	.36**					
9. Job function: administrative	-.08	.01	-.17*	.00	.02	.11	-.07	-.10				
10. Job function: marketing	.16*	-.10	.04	.08	-.08	.07	.09	.09	-.52**			
11. Industry: banking	-.13	-.07	-.14*	-.03	-.08	-.05	.00	-.02	.26**	-.09		
12. Industry: education	-.03	.12	.22**	-.16*	.14*	.20**	-.14*	-.12	.01	-.26**	-.45**	
Mean	3.17	2.97	3.30	2.94	2.98	.47	29.53	4.76	.51	.22	.26	.37
Standard deviation	.64	.94	.66	.88	.88	.50	5.69	4.49	.50	.42	.43	.48

Note:  $n = 226$ .

\* $p < .05$ ; \*\* $p < .01$ .

**Table 2.** Mediation results (Process macro Model 4)

	Job insecurity	Job performance		
Gender (1 = female)	-.11	.15		
Age	.01	.02 <sup>+</sup>		
Organizational tenure	.00	-.02 <sup>+</sup>		
Job function: administrative <sup>a</sup>	-.00	.04		
Job function: marketing	.09	-.04		
Industry: banking <sup>b</sup>	-.21 <sup>+</sup>	-.18		
Industry: education	-.08	-.04		
Perceived pandemic threats	.18 <sup>*</sup>	-.23 <sup>**</sup>		
Emotion regulation skills	-.16 <sup>**</sup>	.22 <sup>**</sup>		
Improvisation skills	-.62 <sup>***</sup>	.18 <sup>+</sup>		
Job insecurity		-.21 <sup>**</sup>		
R <sup>2</sup>	.42	.30		
F-value (df1, df2)	F(10, 214) = 15.76 <sup>***</sup>		F(11, 213) = 8.18 <sup>***</sup>	
	Effect size	Bootstrap SE	LLCI	ULCI
Indirect effect	-.04	.02	-.09	-.002

Note:  $n = 226$ ; SE, standard error; LLCI, lower limit confidence interval; ULCI, upper limit confidence interval.

<sup>a</sup>Base category is job function: operational.

<sup>b</sup>Base category is industry: telecom.

<sup>+</sup> $p < .10$ ; <sup>\*</sup> $p < .05$ ; <sup>\*\*</sup> $p < .01$ ; <sup>\*\*\*</sup> $p < .001$ .

revealed diminishing effect sizes of the indirect effect of perceived pandemic threats at higher levels of the moderator: from  $-.07$  at one SD below the mean, to  $-.04$  at the mean, to  $-.003$  at one SD above the mean. The CIs did not include zero at the two lower levels ( $[-.15$  to  $-.02]$  and  $[-.08$  to  $-.001]$ , respectively) but included zero at the highest level of the moderator  $[-.06$  to  $.06]$ . Finally, the index of moderated mediation equaled  $.04$ , and the associated CI did not include zero  $[.001-.11]$ . Hypothesis 5 therefore received support too.

### Post hoc analyses

To confirm that it was meaningful to apply the Process-based multiple regression approach when our sample includes only 226 employees, we undertook a post hoc power analysis, using G\*Power software (Faul, Erdfelder, Lang, & Buchner, 2007), similar to previous studies that rely on relatively small sample sizes (e.g., De Clercq, 2021; De Clercq & Belausteguigoitia, 2019). A high power level of .95 for a multiple regression model that includes 10 predictors (e.g., the left-hand path of Model 4 consists of gender, age, organizational tenure, two job function dummies, two industry dummies, perceived pandemic threats, emotion regulation skills, and improvisation skills; Table 2) and an effect size indicating Cohen's  $f^2 = .74$  (corresponding with the  $R^2$  value of .42 that was estimated for that path; Table 2) would require a sample size of at least 44, well below our sample of 226 participants. The required sample sizes for the other models are similar and much lower than we achieved (71 for the model in the right column of Table 2; 43 for the left column of Table 3; 71 for the right column of Table 3, 44 for the left column of Table 4, and 71 for the right column of Table 4). This post hoc analysis confirms that our sample is large enough to make meaningful predictions (Hair, Black, Babin, & Anderson, 2010).

**Table 3.** Moderated mediation results for emotion regulation skills (Process macro Model 7)

	Job insecurity	Job performance		
Gender (1 = female)	-.14	.15		
Age	.01	.02 <sup>+</sup>		
Organizational tenure	.01	-.02 <sup>+</sup>		
Job function: administrative <sup>a</sup>	.03	.04		
Job function: marketing	.14	-.04		
Industry: banking <sup>b</sup>	-.17	-.18		
Industry: education	-.03	-.04		
Perceived pandemic threats	.81**	-.23**		
Emotion regulation skills	.47 <sup>+</sup>	.22**		
Improvisation skills	-.60***	.18 <sup>+</sup>		
Perceived pandemic threats × emotion regulation skills	-.21**			
Job insecurity		-.21**		
R <sup>2</sup>	.44	.30		
F-value (df1, df2)	F(11, 213) = 15.33***		F(11, 213) = 8.18***	
Conditional <i>direct</i> relationship between perceived pandemic threats and job insecurity				
	Effect size	Bootstrap SE	LLCI	ULCI
-1 SD	.40	.12	.17	.63
Mean	.20	.08	.04	.35
+1 SD	-.01	.11	-.22	.20
Conditional <i>indirect</i> relationship between perceived pandemic threats and job performance				
	Effect size	Bootstrap SE	LLCI	ULCI
-1 SD	-.08	.04	-.18	-.01
Mean	-.04	.02	-.09	-.003
+1 SD	.002	.02	-.04	.06
Index of moderation	.04	.03	.003	.10

Note:  $n = 226$ ; SD, standard deviation; SE, standard error; LLCI, lower limit confidence interval; ULCI, upper limit confidence interval.

<sup>a</sup>Base category is job function: operational.

<sup>b</sup>Base category is industry: telecom.

<sup>+</sup> $p < .10$ ; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

## Discussion

### Theoretical implications

We provide some much needed insight into the negative work-related consequences of pandemic crises, which can undermine the quality of employees' personal and professional well-being (Chong, Huang, & Chang, 2020; Hite & McDonald, 2020; Vaziri et al., 2020). We have sought particularly to investigate the risk that perceived pandemic threats escalate into lower job performance, by explicating two specific factors that can explain or influence this escalation. With a conceptual basis in COR theory (Hobfoll et al., 2018), we propose that (1) the probability of diminished job performance due to perceived pandemic threats can be explained by employees' beliefs that their job is in danger, but (2) their possession of two critical personal resources

**Table 4.** Moderated mediation results for improvisation skills (Process macro Model 7)

	Job insecurity	Job performance		
Gender (1 = female)	-.12	.15		
Age	.010	.02 <sup>+</sup>		
Organizational tenure	.00	-.02 <sup>+</sup>		
Job function: administrative <sup>a</sup>	-.00	.05		
Job function: marketing	.13	-.04		
Industry: banking <sup>b</sup>	-.13	-.18		
Industry: education	-.03	-.04		
Perceived pandemic threats	.87*	-.23**		
Emotion regulation skills	-.16**	.22**		
Improvisation skills	.04	.18 <sup>+</sup>		
Perceived pandemic threats × improvisation skills	-.21*			
Job insecurity		-.21**		
R <sup>2</sup>	.44	.30		
F-value (df1, df2)	F(11, 213) = 14.93***		F(11, 213) = 8.18***	
Conditional <i>direct</i> relationship between perceived pandemic threats and job insecurity				
	Effect size	Bootstrap SE	LLCI	ULCI
-1 SD	.32	.11	.11	.54
Mean	.17	.08	.01	.32
+1 SD	-.02	.11	-.20	.24
Conditional <i>indirect</i> relationship between perceived pandemic threats and job performance				
	Effect size	Bootstrap SE	LLCI	ULCI
-1 SD	-.07	.03	-.15	-.02
Mean	-.04	.02	-.08	-.001
+1 SD	-.003	.03	-.06	.06
Index of moderation	.04	.03	.001	.11

Note: *n* = 226; SD, standard deviation; SE, standard error; LLCI, lower limit confidence interval; ULCI, upper limit confidence interval.

<sup>a</sup>Base category is job function: operational.

<sup>b</sup>Base category is industry: telecom.

<sup>+</sup>*p* < .10; \**p* < .05; \*\**p* < .01; \*\*\**p* < .001.

(emotion regulation and improvisation) mitigates this process. The findings provide empirical support for these conceptual predictions.

In turn, a first theoretical implication of our findings stems from our identification of a critical factor that underpins the conversion of perceived pandemic threats into work-related underperformance, namely, employees' beliefs they may lose their jobs. This result has a counterintuitive aspect to it and is therefore theoretically interesting. Positive performance and related evaluations could help reduce career- and personal-related hardships in difficult situations (Bozionelos *et al.*, 2016), but as we find, employees who feel threatened by a global health crisis respond in the opposite direction. That is, negative thoughts about the limited stability of their employment situation feel so intrusive that they refuse to perform their job duties (Shoss, 2017). Our empirical findings indicate that the conviction that they may lose their jobs serves as a critical conduit through which perceived pandemic threats lead to a diminished

probability that employees exhibit high job performance. This mediating role of job insecurity indicates the danger of a downward cycle, in which employees are *complicit* but of which they might be unaware: Negative job-related beliefs, as responses to perceptions of pandemic threats, make their precarious situation even worse, because they underperform at work (Schreurs et al., 2012).

A second implication provides some reassurance though, because the negative spiral can be *disrupted* to the extent that employees have access to valuable personal resources that help them deal with perceived pandemic threats (Hobfoll et al., 2018). As expected, job insecurity functions as a less prominent channel for resource-draining pandemic threats to escalate into tarnished job performance when employees possess greater emotion regulation and improvisation skills (De Clercq & Belausteguigoitia, 2020; Flach, 2014). As mentioned, the role of their emotion regulation skills is more covert in nature, enabling employees to control personal hardships in precarious situations, such that they stay calm instead of becoming agitated when considering how a pandemic crisis may negatively affect their work (Bai, Lin, & Wang, 2016). The role of improvisation skills instead is more overt, enabling employees to deal with pandemic-related challenges on the spot (Vera & Crossan, 2005), which then diminishes concerns about the risk of job loss.

Overall, this study provides extended insights into how employees' work performance may suffer due to global health crises, such that we complement prior research into the detrimental performance effects of external crises caused by terrorism (Haq, De Clercq, & Azeem, 2019; Raja et al., 2020). We detail how (1) a belief that they might lose their jobs represents a notable factor that connects another critical source of non-work-related hardships (pandemic threats) with suboptimal performance outcomes at work and (2) employees' abilities to control their own emotions and come up with novel ideas on the spot subdue this process. The scope of the conceptual model may be somewhat narrow, but our primary goal has been to offer depth instead of breadth in explicating a hitherto unexplored reason (fear of job loss) that perceived pandemic threats can compromise job performance. Moreover, the study findings add to prior research on the *direct* advantages of emotion regulation and improvisation in generating positive work outcomes (O'Boyle, Humphrey, Pollack, Hawver, & Story, 2011; Vera & Crossan, 2005). As mentioned, the conceptual arguments that underpin the tested relationships and findings are anchored in the robust COR framework, such that these findings should be broadly applicable to and relevant for external crisis situations in general. We accordingly pinpoint how the detrimental role of beliefs about an insecure job situation, informed by perceived threats that emanate from a crisis, might be mitigated by individual resources that help employees cope with these threats. In turn, this research reveals important individual *boundary* conditions that lessen the danger of a detrimental cascade, in which crisis-related hardships in the private domain escalate into negative work outcomes, which might magnify these hardships.

### **Limitations and further research**

This study has some limitations, which suggest paths for continued research. First, our primary focus was on job insecurity as a key factor that explains how perceived pandemic threats may curtail job performance, guided by the argument that an excruciating crisis invoked by a global virus may spill over into the work sphere and generate doubts in employees about their job situation (De Clercq & Pereira, 2022b; Hite & McDonald, 2020). It would be interesting to examine other pertinent work-related experiences too, such as employees' perceptions of limited perceived organizational support (Bergeron & Thompson, 2020), job-related anxiety (De Clercq, Haq, & Azeem, 2017), or beliefs about a stalled career (Smith-Ruig, 2009). Nor did we formally assess the theorized mechanisms that connect employees' perceived pandemic threats with their sense of job insecurity (e.g., concerns about competitive pressures on their organization) or that connect their sense of job insecurity with diminished job performance (e.g., unwillingness

to spend significant work energy to the benefit of their organization). Continued research could explicitly assess these mechanisms.

Second, our investigation of emotion regulation and improvisation skills as two complementary boundary factors that mitigate the indirect relationship between perceived pandemic threats and job performance could be extended by the consideration of other pertinent personal factors, such as employees' psychological capital (Lim, Chen, Aw, & Tan, 2016), passion for work (Haq, De Clercq, & Azeem, 2019), or proactive personality (Shen, Zhang, Yang, & Liu, 2020). Organizational factors also might affect the probability that employees who perceive a pandemic as threatening form beliefs about an insecure job situation and then underperform, such as person–organization fit (Chen, Sparrow, & Cooper, 2016) or trust in top management (Bouckennooghe, 2012). It would be interesting to compare the power of these mitigating factors, relative to the influence of the two skill types that we study.

Third, the empirical context of this study was Pakistan. Similar to our discussion of the role of industry, the hypothesized relationships are not country-specific, so the results should apply to many countries. Yet even if the nature of the relationships has broad applicability, their strength might vary across countries. As mentioned, strong uncertainty avoidance marks Pakistani culture, which might increase the challenges that people experience in the presence of an unpredictable, lethal virus. The difficult economic situation of the country also makes it likely that employees fear for their jobs. It would be useful to test the proposed theoretical framework in multiple countries to examine explicitly how pertinent macro-level cultural and economic factors influence the tested relationships. It also might be valuable to investigate the roles of parallel *individual* factors, such as employees' own risk aversion (Loi & Ngo, 2010) or family economic strain (Hilton & Devall, 1997).

### **Practical implications**

This study has significant value for management practitioners. Beyond the overall advice to reduce worries about external crisis situations, such as a pandemic, within workforces, it is especially valuable for organizational leaders who might not be able to achieve this objective, which is quite realistic considering the devastating influences that significant crises can have on employees' day-to-day functioning at home and work (Dirani *et al.*, 2020; Raja *et al.*, 2020; Vaziri *et al.*, 2020). The danger that employees' agitation or even panic translates into negative work-related beliefs and behaviors can be subdued to the extent they can rely on pertinent resources that help them cope with the negative feelings. This research reveals in particular that employees with a greater capability to regulate their own emotions or quickly generate novel ideas and solutions are better positioned to deal with the danger that external crises negatively affect their work. Organizations can benefit from developing and nurturing such skills within their ranks. For example, to enhance emotion regulation, they could train employees, through formal sessions or on-the-job training, to develop emotional competencies that help them deal with upsetting and unpredictable events (Ahadi & Jacobs, 2017). To support and leverage employees' improvisation skills, organizations can emphasize the value of looking outside the box for solutions to difficult situations, without constraints imposed by preset ideas for how to tackle such situations (Nisula & Kianto, 2016). Any measure that enhances employees' skills sets, whether by containing negative feelings or acting promptly in the presence of difficult events, should be advantageous in situations in which employees believe that a crisis situation may interfere with their jobs.

### **Conclusion**

We provide some timely insights into the harmful effect of employees' persistent concerns about an external crisis, such as a pandemic, on their work functioning, with specific attention to the roles of their beliefs about an unstable job situation, as well as their access to relevant personal resources. Negative beliefs, in the form of convictions that their jobs are in jeopardy, constitute



key mechanisms through which perceived threats invoked by a crisis prompt employees to exhibit suboptimal job performance. Yet the salience of this harmful process is mitigated to the extent that employees can apply their emotion regulation and improvisation skills to halt negative spillovers of their personal fears into the work realm. This research thus can function as a springboard for continued examinations of how organizations can circumvent the risk that employees underperform in the presence of pressing demands on their personal well-being, due to unpredictable, agonizing, external crises.

**Conflict of interest.** None.

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