

## **Buffering CoVID-related negative emotional states through pre-lockdown team interdependence and social support**

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Although concerns about the longer-term mental health consequences of lockdown have played a significant role in motivating governments to ease restrictions and allow those unable to work from home to physically return to work (Tan et al., 2020), given the continuing threats posed by the pandemic, even those returning to work may still be at risk for a variety of potentially debilitating negative emotional states. Indeed, those returning to work may not only still be effected by the aftermath of the lockdown but may also face heightened concerns of becoming infected and/or infecting loved ones as a function of contagion while commuting to or from work, or from working with asymptomatic colleagues. Accordingly, because re-opening and returning to work in the midst of a pandemic may expose employees to an alternative set of pandemic-related stressors, the post-lock down return to work may not only do little to ameliorate the severity of CoVID-related negative emotional states, it may even exacerbate them.

Rather than examining how the return to work post-lockdown may affect employees' emotional wellbeing more generally, in the current study we respond to recent calls for research on whether and how "structural efforts to optimize working conditions via job redesign" may offer an effective means by which to respond to some of the mental health challenges posed by CoVID-19 (Kniffin et al., 2020). More specifically, we examine whether and how a particular job design feature – team interdependence -- may reduce employees' vulnerability to such negative emotional states when returning to work post-lockdown. Such research is important for several reasons. First, it is well established that negative emotional states (i.e., affective conditions characterized by unpleasant or unhappy emotions) such as stress, depression and feelings of loneliness and powerlessness increase employee vulnerability to both physical ill health (e.g., metabolic syndrome; Rääkkönen, Matthews & Kuller, 2007; Whisman, 2010) and risky behavior (e.g., substance misuse, suicidality; Frone, 2016). Second, these same emotional states pose a risk to employers as they have been linked to diminished employee commitment and engagement (e.g. Alipour and Mamaee Monfared, 2015), higher rates of absenteeism, tardiness and turnover (Hardy, Woods and Wall, 2003), and lower task and contextual performance (Motowidlo, Packard and Manning, 1986; Ozcelik & Barsade, 2018). Finally, given that many communities are likely to periodically experience waves of lockdown and reopening, insight into how job and work process design may link to employee mental health vulnerabilities may offer an important basis for efficacious prevention-oriented interventions in the workplace.

Adopting a resource-based, ecological perspective, we examine whether and how team interdependence *prior* to a pandemic-related lockdown may reduce team member vulnerability to negative emotional states following post-lockdown return to work. We also examine how such interdependence builds a basis for enhanced social support, a key psychological resource, both prior and subsequent to lockdown. More specifically, building on COR theory (Hobfoll, 1988, 1989, 1998) and two of its corollaries (the gain paradox and the desperation principle; Lim et al., 2019) we hypothesize that (a) team social support prior to lockdown mediates the negative relationship between pre-pandemic team interdependence and team members' post-lockdown negative emotional state (i.e., loneliness, powerlessness, stress and depressive symptoms); (b) above and beyond any indirect effect of pre-lockdown team social support on team members' post-lockdown negative emotional state, team social support upon post-lockdown return to work

offers a significant, supplementary indirect effect. (c) team social support subsequent to employees' post-lockdown return to work sequentially mediates the negative relationship between pre-pandemic team interdependence and team members' post-lockdown negative emotional state via team social support prior to lockdown.

We tested our hypotheses using three waves (two pre- lockdown, one post-lockdown) of data collected from a sample of employees employed by a multi-national company manufacturing healthcare products in China. Our final sample included 685 employees within 97 teams. The dependent variables included stress and depression which were evaluated post-lockdown using the Depression Anxiety Stress Scale (DASS-21; Antony et al., 1998), as well as loneliness which was assessed using the short version of the R-UCLA Loneliness scale (Russell, Peplau & Cutrona, 1980) and powerlessness which was assessed using the multidimensional scale proposed by Levenson (1973). The mediator, team level social support, was assessed just prior to lockdown and post lockdown using Vinokur and Ryn's (1993) eight-item measure. Finally, we assessed the independent variable, team level interdependence pre-lockdown on the basis of a scale incorporating items from two measures, namely one capturing the task interdependence dimension of team interdependence, and the other capturing the construct's outcome interdependence dimension (Kirkman, Rosen, Tesluk & Gibson, 2004; Van Der Vegt, Emans & Van de Vliert.1998). We aggregated individual level responses to the team level after obtaining adequate agreement indices. We also included a number of control variables at the individual and team levels. Due to the nested nature of our data (i.e., individuals within teams), and as we hypothesized that a team level variable (i.e. team interdependence) impacts team level mediators (i.e. social support) which are, in turn, related to individual level psychological distress and estrangement, the proposed model reflects a 2-2-1 multilevel mediation model. Accordingly, following Preacher, Zyphur, & Zhang (2010), we applied a multilevel path analysis and tested the significance of the indirect effects, using the Monte Carlo bootstrapping method.

Our results show that indeed team interdependence is a structural factor that helps in mitigating a variety of negative emotional states upon returning to work post lockdown. Moreover, the most robust finding of the study regards the mediating role social support pre-lockdown has in the relationship between team interdependence and negative emotional states. For all the emotional states we examined (i.e., depression, loneliness, stress and powerlessness) we found such a mediating effect, although in the case of stress and powerlessness, the indirect effect was only marginally significant. This finding not only provides empirical support for the role team level structural factors play in employee's wellbeing, but also provides an important explanation as to why such structural factors have an effect. More specifically, we found evidence that this effect occurs as a function of the impact that team interdependence has on members' perceptions of work-based social support. Prior research had demonstrated that, consistent with COR theory's gain paradox principle (Hobfoll, Halbesleben, Neveu, & Westmanm 2018), such support offers a variety of emotional, instrumental and informational resources which, particularly during a time of crisis, may allow for resource replenishment, or at least slow the rate of resource loss (Hobfoll, Tirone, Holmgreen& Gerhart, 2016). The fact that we found this effect to be apparent even in an extremely highly stressful situation (i.e. after lockdown due to a pandemic), emphasizes the importance of gaining such resources as a resiliency factor, prior to the occurrence of any critical incident or period of crisis.

Our results also suggest that post-lockdown social support can play an important, but more limited secondary role in explaining the relationship between team interdependence and negative

emotional states but only in the case of depression and only as a direct result of pre-lockdown social support. This heightened sensitivity of depression to post-lockdown social support may be explained on the basis of COR theory's desperation principle. Whereas less severe forms of negative emotional state may be indicative of diminished rather than depleted resources, depression has been associated with more severe resource loss and the adoption of maladaptive coping associated with an increasing rate of resource depletion (Suzuki, et al., 2018). For those returning to work post-lockdown with largely depleted resources, the social support afforded by team interdependence may slow or even reverse the downward spiral of resource loss associated with depletion, thus mitigating the severity of depression among those assigned to more interdependent teams.

Overall, our findings suggest that in the face of extended crisis situations such as a pandemic-related lockdown, support resources at the front end (i.e., going into the lockdown) are more impactful in mitigating negative emotional states than similar resources at the back end (i.e., returning to work post-lockdown). By structurally designing teams to be more interdependent, team members appear to experience greater social support going into the crisis, providing them with a heightened supply of psychological resources with which to confront a wide range of new challenges and uncertainties. COR theory suggests that these resources, may not only facilitate resilience in the face of lost resources in other domains (e.g., income, health), they may also reduce the likelihood that employees will adopt the kind of maladaptive forms of coping that can result in a downward spiral of resource loss. Furthermore, to the extent that team interdependence enhances member resilience going into the crisis, members experiencing less severe negative emotional states may be less sensitive to the interdependence-influenced social support experienced upon their return to work.

Our findings offer two important theoretical contributions. First, we contribute to the literature on team structural design (e.g. Hackman 1987, Campion et al. 1993) in general, and team interdependence in particular, by extending the list of potential beneficial outcomes to include employee well-being. More specifically, beyond the performance-related advantages of heightened team interdependence (Van der Vegt & Van de Vliert, 2002), our findings indicate that, particularly in a time of crisis outside of the workplace, such structural factors significantly reduce the employee's likelihood of experiencing negative emotional states. Second, by showing that social support pre-lockdown (relative to post-lockdown) serves as a stronger resource base for managing the kind of challenges associated with a pandemic, we highlight the temporal aspects of resource availability, and in this way offer an important extension to ecological theories of emotional well-being. More specifically, our findings suggest that the explanatory potential of COR theory may be enhanced by taking into account not only *how* certain situational factors may impact resource availability, but *when* (relative to a potential resource drain) they do so. Finally, our findings also offer an important practical implication. As many countries face the prospect of a second CoVID-19 pandemic wave, our findings suggest that prior to its occurrence, managers might diminish its adverse impact on both the wellbeing of the workforce and the performance of the firm by proactively restructuring team work processes to be more interdependent.

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