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CAN PERCEIVED SOCIAL SUPPORT PROTECT AGAINST EMOTIONAL EXHAUSTION IN SMART WORKERS? A LONGITUDINAL STUDY

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Abstract

The ongoing outbreak of COVID-19 is deeply affecting the way people work, with changes concerning the labor market (e.g., increasing unemployment), work practices (e.g., smart working), the emergence of new risk factors (e.g., the perceived risk of infection at work) and the accentuation of traditional ones (e.g., workload). In this study, we investigated whether smart working (SW) could affect the well-known association between the perceived characteristics of the work environment and workers' health and well-being. More specifically, building on the Job Demands-Resources (JD-R) model we hypothesized that workload and perceived social support (PSS), as relevant job demands and resources (i.e., risk and protective factors), may be associated with emotional exhaustion (EE) over time. We also hypothesized that working condition, that is, smart *vs* in-person working, may affect these longitudinal relationships. We expected the positive association between workload and EE to be stronger, while the negative association between PSS and EE to be weaker, for smart workers. A longitudinal study was carried out in a sample of workers from different organizations in Italy (N = 292). Participants completed an online questionnaire between the end of October 2020 and the first half of November 2020 (i.e., T1) and four months later (i.e., T2). Workload and PSS were measured at T1 using scales taken from the Q_u-Bo Test and the SAPH@W Questionnaire, respectively, two instruments standardized for the Italian context. Emotional exhaustion was assessed at T2 using the scale taken from the Italian adaptation of the Maslach Burnout Inventory. The hypothesized relationships were tested using moderated multiple regression. Workload at T1 was positively associated with EE at T2, whereas the association between PSS at T1 and EE at T2 was negative. Furthermore, SW moderated the association between PSS and EE, which was negative and significant for in-person workers, but non-significant for smart workers. Our study confirmed that, in line with the JD-R, workload and PSS can be conceived as risk and protective factors for EE, respectively. Interestingly, when considering the moderating role of SW, results showed that, to date, PSS may not be a valuable job resource for smart workers. Hence, although SW has proved useful and sometimes necessary during the COVID-19 pandemic, possible negative aspects of SW as implemented in the pandemic-related emergency (e.g., social separation and work-to-family conflict) need to be carefully considered. In terms of prevention, supervisors should be encouraged to foster a sense of belonging, trust and results-based management.

Keywords: *Workload, perceived social support, smart working, COVID-19, job demands-resources.*

1. Introduction

The health emergency caused by the current COVID-19 pandemic, and the related government measures taken to face it, have determined relevant changes in several areas of everyday life, including the work domain (Burdof et al., 2020). In fact, public and private organizations had to adopt new working practices and policies to sustain productivity in compliance with the rules of social distancing (e.g., reducing physical proximity and social interactions). These included, among others, the adoption of smart working (SW), a form of flexible work characterized by the absence of restrictions in time or space and an organization by phases, cycles, and objectives (Marino & Capone, 2021), which has become a widely used practice as a measure to contain the spread of the new Coronavirus (Wang et al., 2021). In Italy, although smart working was originally proposed with the aim of increasing competitiveness and facilitating work-life balance (Law 81/2017), most organizations were unprepared to properly implement and support this working condition, and many workers had no previous experience of it. Not surprisingly,

a previous study in the Italian context has shown SW to be positively associated with increased workload and technostress (i.e., techno-overload and techno-invasion; Molino et al., 2021).

Furthermore, several studies worldwide have shown that shifting from regular work to SW during the COVID-19 outbreak had a negative impact on work characteristics (e.g., increase in workload/technostress, reduced perceived social support), workers' well-being (e.g., higher emotional exhaustion), and productivity (Wu & Chen, 2020; Wang et al., 2021). Considering this scenario and building on the Job Demands-Resources model (JD-R; Demerouti et al., 2001; see also Bakker & Demerouti, 2017), in this longitudinal study we took a step further and we investigated whether SW could affect the association between the perceived characteristics of the work environment, in terms of workload and perceived social support (PSS) - as relevant job demands and resources - and emotional exhaustion (EE), a core component of job burnout (Taris et al., 2004).

According to the JD-R model, job characteristics from different occupations may be categorized as job demands or job resources. On the one hand, job demands are those aspects of a job (physical, psychological, social, and organizational) that require sustained physical and/or psychological (cognitive and emotional) effort from the employee and are therefore associated with certain psychological and/or physiological costs. On the other hand, job resources are those aspects of a job (physical, psychological, social, and organizational) that are functional in achieving work objectives, reduce job demands and the associated costs (psychological and/or physiological), or promote personal growth, learning, and development (Demerouti et al., 2001; Bakker and Demerouti, 2007, 2017).

Conceived as a job demand, workload requires effort and drains employees' mental and physical resources such as time and energy, thus leading, over time, to EE. Thus, in line with the JD-R model, we hypothesized that workload at time 1 (T1) will be positively associated with EE at Time 2 (T2), so that higher levels of workload will be associated with higher levels of EE four months later.

Hypothesis 1: workload at T1 will be positively associated with EE at T2.

Conceptualized as a job resource, PSS is functional in dealing effectively with high job demands and achieving work goals, thus contributing to prevent job burnout (Schaufeli & Bakker, 2004). Hence, we hypothesized that PSS at T1 will be negatively associated with EE at T2, so that higher levels of PSS will be associated with lower levels of EE over time.

Hypothesis 2: PSS at T1 will be negatively associated with EE at time 2.

Finally, in this study we also hypothesized that SW might affect the relationship between the characteristics of work (i.e., workload and PSS) and EE over time. Specifically, given the forced and suboptimal implementation of SW during the COVID-19 outbreak, we expected the positive association between workload and EE to be stronger, while the negative association between PSS and EE to be weaker, for smart workers.

Hypothesis 3: SW will moderate the positive association between workload and EE over time, which is expected to be stronger for smart workers.

Hypothesis 4: SW will moderate the negative association between PSS and EE over time, which is expected to be weaker for smart workers.

2. Methods

The study was conducted in Italy and included a sample of workers from different organizations. Briefly, workers were approached by trained research assistants and were invited to participate in a study about their work experience. They were also informed that they would be contacted for a second survey four months later. Participants filled out a first online questionnaire between the end of October 2020 and the first half of November 2020 (i.e., Time 1, T1). They also filled out a second online questionnaire between the end of February 2021 and the first half of March 2021 (i.e., Time 2, T2). All participants provided written informed consent before participating in the study. The project was approved by the Ethical Committee for the Psychological Research of the University of Padova, Italy. Overall, 292 participants completed the questionnaire at both T1 and T2. The sample consisted of 162 women (55.5%) and 129 men (44.2%; one missing value, 0.3%) with a mean age was 37.2 years (*SD* = 12.2).

2.1. Measures

Participants completed the following self-report measures:

Workload was measured at T1 using a scale taken from the Q_u-Bo Test (De Carlo et al., 2008), an instrument standardized for the Italian context. The scale included five items (e.g., "Your job requires you to work very hard and intensely") with a response scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Cronbach's alpha was .87 at T1.

Perceived social support was assessed at T1 using a scale taken from the Safety at Work questionnaire (SAPH@W; Converso et al., 2021). The scale included two items with a response scale ranging from 1 (*not at all*) to 10 (*completely*). Cronbach's alpha was .74 at T1.

Emotional exhaustion was assessed at T2 using the scale taken from the Italian adaptation of the Maslach Burnout Inventory—General Survey (MBI-GS; Schaufeli et al., 1996). The scale included nine items (e.g., "I feel emotionally drained from my work"), and the six-point response scale ranged in this study from 1 (*never*) to 6 (*always*). Cronbach's alpha was .93 at T2.

Smart working was detected by asking each participant to indicate his working condition at T1. The item discriminates those who work in-person from those who work – in whole or in part – remotely.

2.2. Data analysis

The hypothesized relationships were tested using moderated multiple regression analyses (Aiken & West, 1991). In the estimated model, workload and PSS were the independent variables, SW was the moderator, and EE was the dependent variable. The scores of both workload and PSS were centered before the interaction terms were calculated. If a significant interaction was found, then a simple slope analysis was conducted. Statistical analyses were carried out using the software R version 4.1.2 (2021).

3. Results

There was a positive, small- to medium-sized correlation between workload at T1 and EE at T2, $r(290) = .26$, $p < .001$, whereas a negative, medium-sized correlation between PSS at T1 and EE at T2 emerged, $r(290) = -.35$, $p < .001$. The regression model showed that workload at T1 was positively associated with EE at T2 ($b = .19$, $p < .01$, $\beta = .19$), whereas PSS at T1 was negatively associated with EE at T2 ($b = -.22$, $p < .001$, $\beta = -.38$). Hypothesis 1 and hypothesis 2 were supported. Furthermore, the interaction between workload and SW was not significant, whereas the interaction between PSS and SW was positive and significant ($b = .15$, $p < .05$, $\beta = .25$). Simple slope analysis revealed that the longitudinal association between PSS and EE was negative and significant for in-person workers ($b = -.22$, $p < .001$, $\beta = -.38$), but non-significant for smart workers ($b = -.07$, *ns*, $\beta = -.13$). Hypothesis 4 was supported, whereas hypothesis 3 was not.

4. Discussion

The COVID-19 outbreak forced organizations worldwide to rethink their working practices and policies in order to contain the spread of SARS-CoV-2 (e.g., by reducing physical proximity and social interactions), which has led to the massive adoption of SW. Hence, millions of people around the world were forced to suddenly become "smart workers", giving rise to a "global experiment" of SW (Wang et al., 2021). Not surprisingly, during the ongoing outbreak of COVID-19 researchers worldwide devoted great attention to the consequences of SW, which showed a negative impact on both the characteristics of work (e.g., increased workload, reduced social support) and workers' health and well-being (e.g., increased emotional exhaustion; Wu & Chen, 2020; Wang et al., 2021).

In this perspective and building on the JD-R model (Demerouti et al., 2001), the aim of this longitudinal study was to explore if, and to what extent, workload and PSS (as relevant job demands and job resources, respectively) affected EE over time during the current pandemic, also considering the potential moderating role of SW in these associations. Hence, we hypothesized that workload at T1 would be positively associated with EE at T2 (i.e., four months later), and that PSS at T1 would be negatively associated with EE at T2. We also hypothesized that SW would moderate these associations, with the positive association between workload and EE being stronger, and the negative association between PSS and EE being weaker, for smart workers.

Results largely supported our predictions. Workload at T1 was positively associated with EE at T2, whereas there was a negative association between PSS at T1 and EE at T2. Contrary to our prediction, SW did not moderate the association between workload and EE over time. On the contrary, SW moderated the association between PSS and EE over time, which was negative and significant for in-person workers, but non-significant for smart workers.

Taken together, these results are consistent with previous empirical research, showing that workload is positively associated with health impairment linked to work-related stress (see Nixon et al., 2011 for a review and meta-analysis). Similarly, our results are consistent with prior research showing that PSS (e.g., from colleagues or supervisors) is negatively associated with emotional exhaustion and psychophysical strain (Valadez-Torres et al., 2018; Macias-Velasquez et al., 2021; see also Viswesvaran et al. 1999, for a meta-analysis).

With respect to the moderating role of SW, our results showed that PSS did not appear to be a valuable resource for smart workers during the COVID-19 outbreak. A possible explanation is that traditional strategies of social support prove to be less effective for smart workers, who have specific needs and expectations. These include, for example, the need for instrumental support from supervisors/colleagues to accomplish tasks during the period of working from home or to manage difficulties related to information and communication technologies (ICTs; Wang et al., 2021). Similarly, smart workers might need emotional support from supervisors/colleagues to overcome social isolation and to maintain bonds between work team members (Kniffin et al., 2021). It is also possible that traditional strategies of social support simply cannot be applied to smart workers.

Finally, regarding practical implications, our study suggests that organizations should encourage managers and supervisors to develop new skills to effectively support smart workers. These include, for example communication skills (e.g., communication clarity and management of communication flow) and technological skills, such as knowledge about the correct and secure use of ICTs (i.e., e-leadership; Contras et al., 2020; Van Wart et al., 2019), which can help smart workers to achieve their work goals and to alleviate the impact of technostress (i.e., instrumental social support; Bakker & Demerouti, 2007; see also Langford et al., 1997). Similarly, organizations should encourage managers and supervisors to provide opportunities for non-task interactions among team members, in order to enable emotional connection, reduce social isolation and loneliness, as well as maintain social bonds between workers (i.e., emotional social support; Kniffin et al., 2021; see also Langford et al., 1997). Furthermore, the adoption of result-based management can strengthen mutual trust between leaders and followers (Kim et al., 2021).

5. Conclusions

In conclusion, this study showed that workload, as a job demand, was associated with higher levels of EE four months later, whereas PSS, as a job resource, was associated with lower levels of EE over time. Furthermore, SW moderated the association between PSS and EE, which was negative and significant for in-person workers, but non-significant for smart workers. This suggests that PSS may not have been a valuable job resource for smart workers during the current COVID-19 outbreak, and that the possible negative aspects of SW – as implemented in the pandemic-related emergency – need to be thoroughly considered and addressed by organizations.

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