

Workers' Stress During the First Lockdown

Consequences on Job Performance Analyzed With a Mediation Model

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Objective: This study sheds light on the pathways leading to an increase in workers stress levels and the resulting effects on job performance during a pandemic. **Methods:** Path analyses were conducted on a sample of 459 Canadian workers using MPlus software. These analyses allowed us to determine whether the association between potential stressors during lockdown and job performance was mediated by workers' stress. **Results:** The results revealed four significant indirect associations. Work-life balance dissatisfaction, gender (women), and marital tensions were indirectly associated with lower job performance because of their positive associations with stress. Teleworking was associated with higher job performance because of its negative association with stress. **Conclusions:** The results suggest that specific stressors are worth targeting with interventions to ensure job performance.

Keywords: conservation of resources theory, COVID-19, job performance, pandemic, stress, stressors, teleworking

On March 11, 2020, the World Health Organization declared COVID-19 to be a pandemic.¹ The direct health implications of the pandemic have been great, with millions of people testing positive and hundreds of thousands of deaths.² Beyond these health consequences, everyday ways of life across the globe have been fundamentally altered, a change that is likely to raise people's stress levels. It has been suggested that the COVID-19 pandemic is affecting not only people's physical health but also their psychological well-being.³ In addition to the stresses inherent to the virus itself, imposed lockdown measures that involve social isolation and insecurity have raised concerns about how people will react.⁴

As a result of the pandemic, several organizations have also been forced to turn to remote working. This change may be an additional stressor for workers who have to adapt to this new challenge. Such stressors can lower job performance, especially as workers' energy may currently be directed toward the new emerging threat that is the virus. Accordingly, some COVID-19 parameters, such as workplace isolation, lack of communication, family distractions, and role overload, have been found to be good predictors of job performance.⁵

To the best of our knowledge, no empirical study has examined the effect of alternative potential factors on stress and job

performance during a pandemic. The present study, therefore, explores the various stressors that influence workers' job performance during a pandemic. The objective of this study was to examine how potential stressors indirectly influence workers' job performance while considering stress related to the COVID-19 pandemic. To pursue the stated objective, we conducted a cross-sectional study of a sample of 459 Canadian workers.

EMPIRICAL BACKGROUND

Stress

The COVID-19 pandemic, and all that has come with it (eg, sanitary confinement, mandatory teleworking, schools and daycare closure, job insecurity), has been a significant source of stress.⁶ Indeed, since the start of the COVID-19 pandemic, relatively high rates of psychological distress (34.43% to 38%) and stress (8.1% to 81.9%) have been reported in the general populations of China, Spain, Italy, Iran, the US, Turkey, Nepal, and Denmark, according to a recent systematic review.⁷

Stress can have different meanings and can refer to the source or cause of stress, the stress response, and the consequences of stress on general health. Workplace stress researchers have typically defined stress in three ways: stimulus, response, and the relationship between stimulus and response.⁸ The stimulus represents the stressor of a job (eg, excessive workload). The stress response is the individual reaction to stressors as a reaction of the body, which can be psychological, physiological, or behavioral.⁸ The relationship between stimulus and response refers to the interaction between environmental stimuli and individual responses.⁸ It is important not to confuse the cause of the effect.⁹

In the present study, stress is specifically viewed as a response to stressors that can be behavioral (eg, job performance). Stressors are thus perceived as being psychosocial determinants or risk factors (eg, work-life balance dissatisfaction), to use the terminology.⁹ In research, job performance is often used as a measure to examine stress in the workplace.¹⁰

Stress and Job Performance

Stress is a contributing factor to organizational inefficiency,¹¹ as performance declines under stressful situations.¹² However, stress can also be good for workers, as it can contribute to excellent performance up to a point; it is after exceeding a certain limit that stress contributes to negative outcomes.¹³ This limit may be exceeded during a pandemic, and this is likely to have a negative impact on job performance.

The most critical aspect of an employee's responsibilities toward an employer is performance on the job.¹⁰ In terms of job performance, a distinction can be made between extra-role and in-role behaviors.^{14,15} Extra-role job performance refers to individual behavior that is discretionary and not directly or explicitly recognized by the formal reward system that promotes the efficient and effective functioning of the organization.¹⁶ In-role job performance refers to the duties and responsibilities involved in the completion of an employee's task.¹⁷

In the present study, we focus on in-role job performance. Considering the pandemic context (eg, sanitary confinement), it

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Clinical significance: Supervisors are encouraged to discuss and accommodate employees' work and life concerns. In addition, we suggest implementing employee assistance programs to help employees deal with stressors. Moreover, employers should offer employees the flexibility to organize their work schedules and priorities and provide them with good technological equipment.

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seems reasonable to expect individuals to perform their tasks without exceeding requirements. In addition, the extra-role performance scales must be adapted to the context of teleworking, which has predominated across organizations during the pandemic. It is likely more difficult to help others when they are absent due to social isolation. Therefore, we relied exclusively on in-role job performance for this research purpose.

Potential Stressors

Several factors and potential stressors are likely to influence job performance, as is the stress increase experienced by individuals. These aspects are discussed in the following sections.

Teleworking

Teleworking can be defined as working remotely, away from an employer or a traditional workplace, for a significant proportion of working time. This often involves the electronic processing of information and always involves using telecommunications.¹⁸ The original idea behind teleworking was to move work to the workers rather than moving workers to their work in an effort to alleviate traffic problems and reduce energy consumption.¹⁹

It has been suggested that teleworking comes at a cost for workers (eg, fewer chances for development and promotion, limited face-to-face contact with colleagues, social isolation, more time spent working) but also provides benefits (eg, more flexible working hours, more time for home and family, greater job autonomy, less disturbance while working, chance to remain employed despite being home, falling ill, or taking on family care roles).²⁰ Thus, teleworking is a nuanced issue with both positive and negative aspects.

Nevertheless, research has shown that teleworking is associated with an increase in organizational²¹ and individual performance,²² despite the possible lack of an inspirational work atmosphere. Furthermore, it has been demonstrated that supervisors evaluated teleworkers' performance as superior to that of on-site workers.²³ While past research has found teleworking to be associated with better job performance, we question whether this finding will hold in the era of COVID-19.

Work–Life Balance Dissatisfaction

Work–life balance conceptualization is drawn from an individual's multiple life roles beyond work, namely non-work (family or personal) demands that may carry over into the working day and adversely influence individual health and performance at work.²⁴ A poor work–life balance can be seen as a work-related stressor. Previous examinations have shown an association between work–life dissatisfaction and stress responses (eg, elevated blood pressure, heart rate, and cortisol levels).²⁵ Moreover, work–life balance dissatisfaction decreases employees' well-being and increases psychological stress, which may lead to lower employee commitment and higher work-withdrawal behaviors.²⁶ More precisely, work–life balance dissatisfaction seems to be associated with a lower level of job performance.^{27–29} Accordingly, this could be an important stressor for workers during a pandemic in which many are required to work from home in the presence of their children.

Workload

Workload refers to all employee activities, including performing professional duties, responsibilities and interests at work.²⁹ It is often characterized by "being very busy",³⁰ which is evoked by either the quantity or difficulty of the tasks an employee is confronted with.³¹ Empirical studies on the relationship between workload and job performance are equivocal. For instance, some have found no significant relationship between workload and job performance,^{29,32} but another study found that workload was associated with a higher level of job performance among a sample of

physicians.³³ Another interesting empirical study found an inverted U-shape relationship between workload and job performance.³⁰ It seems that job performance increases as workload increases, but at a certain point, job performance begins to decrease as workload continues to increase.³⁰ To the best of our knowledge, the relationship between workload, stress, and job performance during a pandemic has not been established.

Gender

The potential for increased work–family conflict and weakened network ties associated with pandemic confinement may impact the careers of men and women differently.³⁴ Since women generally perform more of the child care, online schooling due to the pandemic may adversely affect women's careers.³⁴ Moreover, women are more likely than men to be severely affected by the pandemic in domains such as well-being and job performance.³⁴ A recent empirical study found that during the lockdown, women reported lower job performance than men.³⁵ Furthermore, being female was found to be a risk factor associated with stress and distress during the pandemic.⁷

Marital Tension

One recent study found that marital instability has an effect on employees' emotions and job performance.³⁶ Similarly, another found marital distress to be associated with lower job performance.³⁷ Therefore, it is expected that in a sanitary confinement context, tensions between partners will accentuate stress and diminish job performance.

Business Sector

Public sector employees are usually monitored by the government and are subject to public scrutiny.³⁸ They are expected to perform well in a work environment characterized by a variety of challenges, most of which apply to the whole public sector.³⁹ These challenges are associated with growing expectations that public sector employees serve citizens and act responsibly.³⁹ This requires public sector motivation, which is associated with higher job performance.⁴⁰

Today, public sector employees are facing one of the greatest challenges of all time: a pandemic crisis. For example, teachers have been forced to transition abruptly to distance teaching without prior preparation, and health services employees have had to work in a strategic sector during the pandemic. The actual pandemic context may benefit their job performance if it is seen as a challenge or detrimental if perceived as a stressor. Therefore, this study explores the differences between the public and private sectors in terms of stress and job performance.

Parental Status

Working parents must juggle work with caregiving demands (eg, childcare, homeschooling) in a stay-at-home order context in which one's temporary office also serves as children's play space and virtual classroom.⁴¹ Closures of schools and daycare centers have massively increased child care needs, particularly for working mothers.⁴² Moreover, grandparent-provided childcare has been discouraged due to the higher elderly mortality rate associated with COVID-19.⁴² Therefore, it is possible to assume that job performance decreases for parents as their support systems fail.

Job Insecurity

Sverke et al,⁴³ define job insecurity as the subjectively experienced anticipation of a fundamental and involuntary event related to job loss. According to Alon et al,⁴⁴ it is a stressor that consumes mental and affective resources, causing psychological strain. Unsurprisingly, a recent empirical study found that job insecurity was associated with lower job performance.⁴⁵ Furthermore, in a longitudinal study,

Fischmann et al⁴⁶ found that job insecurity was chronologically linked to in-role job performance.

The COVID-19 pandemic has also generated uncertainty with regards to the overall state of the economy, personal finances, social relationships, and health.⁴⁷ The global number of unemployed persons is estimated to be more than 190 million.⁴⁸ Therefore, workers are likely to perceive more job insecurity, as unemployment rates are increasing all around the world.

THEORETICAL MODEL

One major theoretical approach to understanding stress and job performance in the workplace relies on the conservation of resources theory (COR).^{10,49} According to this theory, individuals actively attempt to retain, protect, and build resources, and they experience stress over the loss of these potential or actual valued resources.⁴⁹ Resources can be internal or external to the individual and relate to all areas of an individual's life. For example, when one's workload exceeds his or her resources or when resources are not replenished one experiences stress. Resources can represent personal characteristics (eg, personality traits), object resources (eg, household income), or conditions (eg, job security) that are valued by individuals or that serve as a means for attaining additional resources.⁴⁹

Environmental circumstances can often threaten an individual's resources.⁴⁹ The COVID-19 pandemic represents a major environmental crisis that is perceived as threatening by the population as it has altered our normal way of life. In addition, for workers, the pandemic has threatened several contextualized resources, such as the usual work organization that quickly transitioned into teleworking coupled with child- and parental-care responsibilities.

One of the main corollaries of the COR theory assumes that individuals with more resources are less vulnerable to the loss of resources.⁵⁰ Conversely, those with fewer resources are more likely to lose resources.⁵⁰ According to the first principle (ie, the primacy of loss principle), resource loss is disproportionately more salient than resource gain.⁵⁰ Furthermore, the COR theory suggests that it is the adjustment of resources to external demands that determines stress and its consequences.⁵⁰ Based on these principles, we postulate that individuals facing potential stressors are more likely to experience stress, consequently leading to poorer job performance.

Hypothesis: The association between potential stressors and job performance is mediated by increased stress.

METHOD

Participants

This cross-sectional study was conducted between April 28, 2020, and June 28, 2020. It received ethical approval from two committees: the University of Quebec in Trois-Rivières and the University of Public Administration, Quebec. A snowball sampling strategy was used to recruit participants on social media via Facebook, Instagram, and LinkedIn. Moreover, a link to the questionnaire was shared on *Mouvement Santé Mentale Québec*, *Ordre des Conseillers en Ressources Humaines Agréées (CRHA)* and *École de Relations Industrielles, Université de Montréal* web pages. This sampling strategy was necessary in the confinement context and was previously established as valid.⁵¹ Participants read the necessary instructions pertaining to confidentiality and signed an informed consent form prior to the completion of the online questionnaire. No financial compensation was given. This sample comprised 459 workers and was 81.9% female, aged 20 to 70 (mean age = 41.2; SD = 9.57 y).

Measures

Stress

Stress increase was measured with a single item (*How has the Covid-19 crisis affected your stress level?*) and was coded as

0 = The Covid-19 crisis decreased my stress level or did not change my stress level, or 1 = The Covid-19 crisis increased my stress level.

Job Performance

Job performance (in-role) was measured using a four-item scale adapted from Williams and Anderson.¹⁵ An example of an item is: *I fulfill the responsibilities described in my job description*. Internal adequacy was adequate ($\alpha = 0.91$). All items were scored on a 7-point scale ranging from 1 (Do not agree at all) to 7 (Very strongly agree). In-role job performance was treated as a continuous variable in the statistical analysis.

Potential Stressors

Teleworking was measured with a single item (*Which statement best describes how you perform your work during the Covid-19 crisis?*) and was coded as 0 = I go to my usual place of work, or 1 = I work from home.

Work-life balance dissatisfaction was measured with a single item (*Since the start of the Covid-19 crisis, how satisfied have you been with the balance between your job and your home life?*) on a 5-point Likert scale (1 = Very satisfied, 5 = Very dissatisfied). Work-life balance dissatisfaction was treated as dichotomous in the analysis (0 = Satisfied, very satisfied, or neither satisfied nor dissatisfied with work-life balance; 1 = Dissatisfied or very dissatisfied with work-life balance).

Workload was measured with a single item (*Since the start of the Covid-19 crisis, what situation best matches your workload?*) on a 5-point Likert scale (1 = A great decrease in my workload, 5 = A great increase in my workload). *Workload* was treated as dichotomous in the analysis (0 = A decrease or a great decrease in the workload or same workload as before; 1 = An increase or a great increase in the workload).

Gender was coded as 0 = Male and 1 = Female. *Marital tension* was measured with a single item (*How has the COVID-19 crisis affected the tension in your relationship?*). It was coded as 0 = The COVID-19 crisis has decreased or has not changed the tension in my relationship, or 1 = The COVID-19 crisis has increased the tension in my relationship.

Business sector was measured with a single item (*Is your job in the public sector?*). It was coded as 0 = No and 1 = Yes.

Parental status (*Do you have children?*) was coded as 0 = No and 1 = Yes. This referred to having children under 18 years old.

Job insecurity was measured with a single item (*Could you lose your job in the next month due to the current COVID-19 crisis?*) on a 5-point Likert scale (1 = Strongly agree, 5 = Strongly disagree). *Job insecurity* was treated as dichotomous in the analyses (0 = Strongly disagree, disagree, or neither agree nor disagree, 1 = Strongly agree or agree).

Control Variables

Age was coded in number of years. *Educational level* was coded using the highest degree attained by the respondent on a 10-category scale and ranked based on the number of years necessary to obtain the degree (lowest to highest) (1 = None, 2 = High school, 3 = Professional school, 4 = College (general), 5 = College (technical), 6 = University (undergraduate certificate), 7 = University (bachelor's degree), 8 = University (graduate diploma), 9 = University (master's degree), 10 = University doctorate). *Household income* was coded using pre-tax household income for the preceding 12 months on a 8-category scale (1 = Less than \$20,000, 8 = \$120,000 or more). *Marital status* was coded as 0 = Single, or 1 = Living as a couple. *Employment stability* was measured with a single item (*What is the employment situation that best matches your employment situation since the start of the COVID-19 crisis?*) and was coded as 0 = My working hours or employment income have been reduced, or I lost my job, or my business has made me temporarily

unemployed due to COVID-19; or 1 = I still have my job(s), with no loss of working hours or employment income.

Previous research has identified variables associated with psychological health. These include personal characteristics, such as age, marital status, household income, and educational level.⁵² Therefore, our statistical analysis was adjusted for covariates in order to capture the effect of the variables central to this study.

Data Analysis

We conducted path analyses with MPlus software.⁵³ Those analyses allowed us to evaluate direct and indirect associations (mediation) based on Preacher and Hayes⁵⁴ method. Path analysis, a subcategory of Structural Equation Modeling (SEM), is an extension of multiple regression in that it allows researchers to infer and test a sequence of causal associations between several variables.⁵⁵ In other words, path analyses help researchers better understand the processes and mechanisms underlying a given phenomenon. More precisely, Preacher and Hayes⁵⁴ method allowed us to determine whether the association between the potential stressors during confinement and job performance was mediated by workers' increased stress (see hypothesis). Our data analysis proceeded as follows: We started by including the variables that we referred to as potential stressors and control variables in our model to examine their main effects on our dependent variables (job performance as well as stress). Once we identified which potential stressors were significantly associated with job performance in this first model, we evaluated whether those variables were indirectly but significantly associated with job performance via stress. We relied on a two-tailed probability for rejection of the null hypothesis ($P \leq 0.05$) to determine the significance levels of the combined variables as well as for each individual regression coefficient. All models were tested with maximum likelihood estimation using robust standard errors (MLR estimation). The goodness-of-fit was assessed using the Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI). Values above 0.95 for the CFI and TLI indicate an excellent fit.⁵⁶

RESULTS

Table 1 presents the descriptive statistics of our variables of interest as well as correlational analyses. For instance, it is evident that 69.28% of our sample felt that the COVID-19 crisis had increased their stress level.

Table 2 presents the results pertaining to potential stressors (teleworking, work-life balance dissatisfaction, business sector,

TABLE 2. Direct Effects of Independent Variables on Stress and Job Performance

	Stress	Job Performance
Constant	0.471**	19.251**
Stress		
Stress		-2.248**
Independent variables		
Teleworking	-0.154**	-1.451*
Work-life balance dissatisfaction	0.267**	-2.508**
Workload	0.086*	1.423**
Gender (women)	0.137*	-0.229
Marital tension	0.132**	-0.891
Business sector (public)	-0.088*	0.206
Parental status (presence)	0.062	0.062
Job insecurity	0.044	-0.569
Adjustments		
CFI	1.00	
TLI	1.00	
χ^2 (df)	193.483 (27)**	

The following variables were controlled for: age, educational level, household income, marital status, employment stability (unstandardized coefficients).

* $P \leq 0.05$.

** $P \leq 0.01$.

workload, gender, marital tension, parental status, and job insecurity) as well as stress associated with job performance.

Firstly, concerning the direct effects of the independent variables on stress. The results highlight the negative contribution of work-life balance dissatisfaction, gender (woman) and marital tension to workers' stress. More specifically, these stressors were associated with an increase in stress. Inversely, teleworking and business sector (public sector) were negatively associated with an increase in stress due to COVID-19. Secondly, regarding the direct effects of the independent variables on job performance. The results obtained indicate that stress and teleworking were negatively associated with job performance. Inversely, workload was positively associated with professional job performance.

Table 3 presents the results pertaining to the indirect (mediation) contribution of the potential stressors to job performance (see hypothesis).

Lastly, concerning indirect associations, work-life balance dissatisfaction, gender (woman), and marital tension were indirectly

TABLE 1. Descriptive and Correlational Statistics

	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.	21.33	5.07	1									
2.	69.28		-0.28**	1								
3.	84.53		-0.04	-0.14**	1							
4.	47.06		-0.31**	0.34**	-0.06	1						
5.	46.84		0.10*	0.15**	-0.03	0.14**	1					
6.	81.92		-0.08	0.17**	-0.01	0.09	0.08	1				
7.	39.65		-0.18**	0.17**	-0.01	0.17**	-0.03	0.07	1			
8.	66.88		0.07	-0.09	-0.05	0.00	-0.07	-0.04	-0.02	1		
9.	64.71		0.00	0.08	-0.03	0.08	0.03	-0.00	0.16**	0.09	1	
10.	9.15		-0.07	0.03	0.01	-0.01	-0.04	0.03	-0.04	-0.18**	-0.10*	1

1. = Job performance; 2. = Stress; 3. = Teleworking; 4. = Work-life balance dissatisfaction; 5. = Workload (elevated); 6. = Gender (women); 7. = Marital tension; 8. = Business sector (public); 9. = Parental status (presence); 10. = Job insecurity.

M, mean/proportion; SD, standard deviation.

* $P \leq 0.05$ (coefficients ≥ 0.05).

** $P \leq 0.01$ (coefficients ≥ 0.05).

TABLE 3. Indirect Effects of Independent Variables on Job Performance

	Estimate	SE
Independent variables		
Teleworking	0.347*	0.141
Work–life balance dissatisfaction	−0.604**	0.158
Workload	−0.192	0.099
Gender (women)	−0.309*	0.138
Marital tension	−0.296*	0.122
Business sector (public)	0.199	0.108
Parental status (presence)	0.110	−0.139
Job insecurity	0.157	−0.100

The following variables were controlled for: age, educational level, household income, marital status, employment stability (unstandardized coefficients).

* $P \leq 0.05$.

** $P \leq 0.01$.

associated with a lower level of job performance. Inversely, teleworking was associated with a higher level of job performance. Thus, these variables significantly impact job performance through an increase in stress due to COVID-19. In other words, by increasing stress due to COVID-19, these variables negatively influence job performance. These results partially confirmed our hypothesis.

DISCUSSION

The study's main objective was to verify whether the association between potential stressors and job performance was mediated by stress. Accordingly, we examined the direct and indirect associations between potential stressors and job performance via stress increases due to the COVID-19 pandemic. Our results partially support the research hypothesis. Indeed, teleworking, work–life balance dissatisfaction, gender (women) and marital tension appeared to be associated with job performance through their effect on stress. Since these potential stressors were found to be associated with stress as well, it seems that their effects were strong enough to influence job performance indirectly. These results are in line with the empirical background and the theoretical model mobilized in the current study (COR theory), which postulate that individuals facing potential stressors are more likely to experience stress leading to poorer job performance.

It is also worth mentioning that workload was associated with a higher level of job performance, while business sector (public sector) was negatively associated with stress. These results are consistent with previous research on workload.³³ However, no previous study has shown an association between the public sector and stress. That said, it would have been possible to assume that since public servants are more likely to have retained their job and regular salary during the first lockdown, they are less likely to have experienced stress related to the pandemic. However, we controlled for job security in this study. This brings us to hypothesize that some public sector characteristics' impact on stress surpass that of job security.

Furthermore, we identified surprising results regarding the direct and indirect effects of teleworking. We found that teleworking was directly associated with lower job performance. This result contrasts with those of previous studies prior to the pandemic context.^{21–23} However, it is important to keep in mind that the pandemic context (especially the first wave, during which the data were collected) carries several specificities regarding teleworking.⁵⁷ These specificities may explain the surprising association between teleworking and job performance found in this study. First, the shift to teleworking was sudden, involuntary, and not anticipated by workers or employers.⁵⁷ As a result, workers may not have had the

equipment and resources needed to do their job well remotely (eg, ergonomic workstations, high-performance computers, closed offices, printers, and cameras for videoconferencing). Second, workers who were also parents had to telework and mind their children at the same time, including managing schooling at home.⁵⁷ Although we controlled for the presence of children, it is possible that our study did not capture the entire complexity of being a parent during a pandemic. This is likely to interfere with concentration and, thus, job performance. Third, telework occurred in an anxiety-provoking context linked to the pandemic and was characterized by increased social isolation due to social distancing orders.⁵⁷

However, teleworking was also indirectly associated with a higher level of job performance. Therefore, it appears that its indirect effect, in opposition to its direct one, on job performance was inverted. In other words, teleworking was negatively associated with increased stress, and this effect was strong enough to influence job performance. This may be explained by the fact that the workers were less at risk of viral contamination and eliminated time normally wasted on daily commutes, which could have influenced the stress they experienced. Moreover, it is statistically possible to obtain a negative direct association and a positive indirect effect.⁵⁸ The result seems to indicate that the effect on stress was strong enough to inverse the direct association.

Practical Implications

The results obtained suggest that some potential stressors (ie, work–life dissatisfaction, marital tension, teleworking) are worth targeting with interventions to ensure job performance. First, it would be possible to diminish work–life balance dissatisfaction by encouraging supervisors to discuss and accommodate employees' work and life concerns with formal organizational policies and by building a family-supportive organizational culture.⁵⁹ Second, employee assistance programs could be offered to help employees deal with stressors (such as marital tension), especially during periods of imposed sanitary confinement. For example, organizations could offer online or phone consultation sessions with a psychologist. Third, as teleworking was found to play a direct and indirect role in workers' job performance, employers should ensure continuous communication with co-workers and supervisors about job performance expectations, work progress and availability. They should offer employees the flexibility to organize their work schedules and priorities and provide them with good technological equipment.⁶⁰

Limitations and Suggestions for Future Research

This study is not without limitations. First, the use of cross-sectional data implies the difficulty of identifying causal relationships among the variables under study. Some inverse relationships are possible because workers who experience stress may overestimate potential stressors.

Second, the snowball sampling strategy employed in the present study offers a sample that is not representative of the general worker population. However, Casler et al⁵¹ found that this sampling method is valid and allows for indistinguishable results in comparison with a standard sample. In addition, employing this sampling method on social media allowed us to survey many workers, which was the only possible option in a confinement context in order to capture rapid workforce changes during the first months of the pandemic. We collected data from April 28 to June 28, 2020, during the first lockdown. That said, the results of this study should be interpreted with caution due to the inclusion of more women in our sample. The results obtained are probably more representative of women and are therefore not necessarily generalizable to both genders.

Third, the available variables were limited due to the short questionnaire format we used. Relatedly, unobserved variables

could have also impacted the examined relationships. The reasoning behind the use of a short questionnaire was to avoid creating more stress and workload for the respondents. We, therefore, measured a limited number of variables. It would have been interesting to include personality traits, as it is likely that individuals' reactions to stressors depend on those traits. According to Belzunegui-Eraso and Erro-Garcés,⁶¹ how well an individual adapts to the specificities of telework depends in part on his personality traits.

Fourth, the fact that the set of measurements came from the same source leads to the possibility of a common variance bias. A selection bias may have also occurred, as workers with higher education are more likely to be motivated to participate in the study, as they are likely more familiar with online surveys.

This study provides some insight regarding the determinants of job performance and the mediating role of stress in a pandemic. However, further studies are needed to deepen our understanding of stressors that influence job performance via stress. The spectrum of stressors should be broadened in the future to better reflect the complexity of this issue. For instance, work factors, such as human resources management practices; individual factors, such as resiliency, emotional intelligence and self-efficacy; and coping strategies should be integrated into future studies. Further research should be conducted using longitudinal data to confirm and extend our research results. Finally, considering the importance of extra-role job performance for organizations, future studies using a telework-adapted scale to measure extra-role performance are necessary.

In sum, this study contributes to the literature by extending previous research on stress and job performance during sanitary confinement due to a pandemic. We found that stress seems to play a mediating role between potential stressors and job performance. That may lead to important practical implications in the case of a prolonged pandemic, future pandemics, or even a post-pandemic context.

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