

A Service of

ZBW

Leibniz-Informationszentrum Wirtschaft Leibniz Information Centre for Economics

Mihalca, Loredana; Irimiaș, Tudor; Brendea, Gabriela

Article

Teleworking during the COVID-19 pandemic: Determining factors of perceived work productivity, job performance, and satisfaction

Amfiteatru Economic Journal

Provided in Cooperation with:

The Bucharest University of Economic Studies

Suggested Citation: Mihalca, Loredana; Irimiaș, Tudor; Brendea, Gabriela (2021) : Teleworking during the COVID-19 pandemic: Determining factors of perceived work productivity, job performance, and satisfaction, Amfiteatru Economic Journal, ISSN 2247-9104, The Bucharest University of Economic Studies, Bucharest, Vol. 23, Iss. 58, pp. 620-636, https://doi.org/10.24818/EA/2021/58/620

This Version is available at: https://hdl.handle.net/10419/281591

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.



WWW.ECONSTOR.EU

https://creativecommons.org/licenses/by/4.0/

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.





TELEWORKING DURING THE COVID-19 PANDEMIC: DETERMINING FACTORS OF PERCEIVED WORK PRODUCTIVITY, JOB PERFORMANCE, AND SATISFACTION

Loredana Mihalca^{1*}, Tudor Irimiaş² and Gabriela Brendea³ ¹⁾²⁾³⁾ Babeş-Bolyai University, Cluj-Napoca, Romania

Please cite this article as:	Article History
Mihalca, L., Irimiaş, T. and Brendea, G., 2021.	Received: 30 March 2021
Teleworking During the COVID-19 Pandemic:	Revised: 10 May 2021
Determining Factors of Perceived Work Productivity, Job	Accepted: 12 June 2021
Performance, and Satisfaction. Amfiteatru Economic,	
23(58), pp. 620-636.	
DOI: 10.24818/EA/2021/58/620	

Abstract

Due to the COVID-19 pandemic, telework has been adopted extensively as a way to ensure business continuity. However, its effects on important employee outcomes such as work productivity, job performance, and satisfaction are unclear. The purpose of this study was to investigate whether the factors previously identified as important determinants of telework effectiveness are also relevant in the context of the pandemic. Drawing on Baruch and Nicholson's Model of Teleworking, the relationship between individual, home/family, job, and organizational factors and adjustment to telework during COVID-19 was examined. Survey data was collected from 482 employees who worked from home on a full-time basis during the pandemic. Results indicated that individual factors (i.e., self-management tactics) and home/family factors (i.e., the need for adequate telework conditions) are important predictors for employee productivity, performance and satisfaction while teleworking during COVID-19. Furthermore, workload (i.e., job factor) was a significant predictor for work productivity and satisfaction with telework. Surprisingly, organizational support for teleworking was not related to any of these outcomes. Implications for research and practice concerning telework during the pandemic are discussed.

Keywords: teleworking; COVID-19; productivity; workload; self-management; job satisfaction; teleworkers.

JEL Classification: J22, D23

*Coresponding author, Loredana Mihalca - e-mail: loredana.mihalca@econ.ubbcluj.ro.

Authors' ORCID:

Loredana Mihalca: orcid.org/0000-0002-0079-7975 Tudor Irimiaş: orcid.org/0000-0002-0844-5886 Gabriela Brendea: orcid.org/0000-0001-5511-4986

Amfiteatru Economic



Introduction

Due to the global outbreak of COVID-19, *teleworking* (known as telework, work from home, remote work, telecommuting) has increased tremendously as many employees have been compelled to stay home (Kniffin, et al., 2020; Wang, et al., 2021). For example, in July 2020 nearly half of the EU employees participating in the Eurofound's (2021) survey worked at home *at least some of the time*, while one third of them reported working from home *full-time*. A key difference between teleworking under normal circumstances and teleworking during COVID-19 is that the former represents a voluntary employee practice, often presented as a benefit (Wang, et al., 2021), whereas the latter is a mandatory full-time practice, imposed "overnight" (Carillo, et al., 2020; Kniffin, et al., 2020). In the context of the pandemic, teleworking has been crucial for business continuity. However, its effects on important employee outcomes such as work productivity, job performance, and satisfaction are unclear (compare, Chang, et al., 2021).

With respect to teleworking under normal circumstances, several studies have found positive effects of this practice on work productivity, job performance, job satisfaction, organizational commitment, and retention (Gajendran and Harrison, 2007; Martin and MacDonnell, 2012). These beneficial effects of telework for employees and organizations are attributed to increased flexibility and autonomy, lower work-family conflict, lack of interruptions and improved concentration, among others (Golden, 2009; Allen, et al., 2015). There is also evidence regarding the drawbacks associated with telework such as social and professional isolation, career stagnation, increased family-work conflict due to the blurred boundaries between work and private life (Gajendran and Harrison, 2007).

As existing knowledge on the benefits and drawbacks of telework has been generated from a context in which telework was only occasionally practiced, its applicability in the unique circumstances of the COVID-19 pandemic can be questioned (Wang, et al., 2021). More specifically, because of the mandatory nature of teleworking during COVID-19 and the unique challenges associated with this type of work (e.g., stress caused by the pandemic, lack of child-care support, blurred boundaries between work and family life; Chang, et al., 2021), some of the previous findings on telework benefits and drawbacks might not be true in the pandemic context (Wang, et al., 2021). Thus, gaining an understanding of how to get the full benefit out of telework during COVID-19 and, in particular, of how to help employees to successfully *adjust* to this new work situation is critical for the organizations that want to maintain their productivity even under difficult working conditions such as those imposed by the pandemic (Kramer and Kramer, 2020).

Based on the existing findings (Carillo, et al., 2020; Wang, et al. 2021), it cannot be, however, concluded *whether* teleworking during COVID-19 has or does not have detrimental effects on individual work outcomes (e.g., productivity) and attitudes (e.g., satisfaction with telework), and *what* are the situational and individual factors that predict the positive outcomes and attitudes of teleworking in the context of the pandemic.

The main purpose of this study was to identify the factors associated with successful adjustment to telework during COVID-19, that is, work productivity, job performance, and satisfaction with the new work mode (Raghuram, et al., 2001). Drawing on Baruch and Nicholson's (1997) Model of Teleworking and on the Crisis-induced Telework Adjustment framework developed by Carillo, et al. (2020), this study aimed at investigating whether individual (i.e., self-management tactics), home/family (i.e., work-family conflict, physical

Vol. 23 • No. 58 • August 2021

conditions, facilities available), job (i.e., workload), and organizational factors (i.e., organizational support for teleworking) predict adjustment to telework during COVID-19. These factors have been theorized as key factors in predicting the effectiveness of telework under normal circumstances (Baruch and Nicholson, 1997). In line with Carillo, et al. (2020), adjustment to telework during COVID-19 was defined as the adaptation to challenges and demands of the new work context imposed by the pandemic and measured by three indicators: work productivity, job performance, and satisfaction with telework.

To explore the relationship between the situational (home/family, job, and organizational factors) and individual factors, and the indicators of successful adjustment to telework during COVID-19, we first present the theoretical approaches on which our hypotheses are based. Next, the methods and instruments used during data collection and data analysis were described. Finally, the theoretical and practical implications of the findings were disscused.

1. Review of the scientific literature

4E

1.1. Teleworking during normal circumstances

Teleworking was defined as a work arrangement in which employees perform their work away from the organisation's central locations (e.g., from home, satellite offices) with the aid of information and communication technologies (Allen, et al., 2015). This work practice became increasingly popular in the last decades due to advancements in technology and changing needs of employees (Golden, 2009). Working away from the central location only a part of the week (1 or 2 days) represents a less intensive form of telework (i.e., *part-time telework*) compared to spending a major part of the week away from the conventional workplace (i.e., *full-time telework*; Gajendran and Harrison, 2007).

Numerous studies have been conducted in order to understand the effects of telework on the outcomes such as work productivity, job performance, and job satisfaction (Martin and MacDonnell, 2012). Work productivity, that is, perceived increase or decrease in work output was frequently reported as a benefit of telework (Gajendran and Harrison, 2007; Martin and MacDonnell, 2012). Reasons for this include less distractions and interruptions when working from home than working in a potentially noisy office environment, saving time from daily commute, working at peak efficiency hours, among others (Bélanger, 1999). Similar reasons were mentioned for improved job performance in the context of teleworking (Gajendran and Harrison, 2007). Unlike work productivity, which is output-oriented, job performance refers to the assessment of the work done by employees (e.g., the quality of work output; Martin and MacDonnell, 2012). Gajendran and Harrison's (2007) meta-analytic study has revealed a positive relationship between telework and supervisor-rated or objectively measured job performance, but not between telework and self-rated performance. In contrast, in their meta-analysis Martin and MacDonnell (2012) found a small, but positive and significant relationship between telework and self-rated performance. The intensity of telework (low intensity vs. high intensity) has been found to be positively associated with supervisor-rated task performance (Gajendran, et al., 2015). Overall, empirical evidence regarding the impact of telework on job performance, especially on self-rated performance remains inconclusive.

Job satisfaction, defined as the degree to which employees' expectations are fulfilled by their job-related experiences (Toscano and Zappalà, 2020) is another commonly reported

Amfiteatru Economic





consequence of telework (Beauregard, et al., 2019). The positive relationship between telework and job satisfaction found in some studies (Gajendran and Harrison, 2007; Allen, et al., 2015) was attributed to increased flexibility and control over one's work, as well as to lower family-work conflict. Some other studies have found a curvilinear inverted U-shaped relationship between the intensity of telework and job satisfaction. Specifically, for lower levels of teleworking, a positive relationship between telework and job satisfaction occurred, while for higher levels of teleworking, a satisfaction plateau was reached (Golden and Veiga, 2005; Beauregard, et al., 2019).

In their review of telework research, Allen, et al. (2015) concluded that a multifaceted approach of teleworking is needed. In particular, the authors emphasized the need to take into consideration aspects of the person, the job, and the organization when investigating effectiveness of telework. Baruch and Nicholson (1997) also claimed that the effectiveness of telework during normal circumstances depends on four factors that need to be present simultaneously. They are: (1) *job factors* that refer to the nature of work and the technology used for specific work-roles, (2) *organizational factors* that reflect how telework-supportive the organization is, including aspects such as managers' trust in teleworkers, (3) *home/work factors* that include aspects such as quality of family relations, good physical conditions, and facilities available, and (4) *individual factors* that refer to personal characteristics such as personality traits, attitudes, and needs. Baruch and Nicholson's (1997) four-factor Model of Teleworking may offer a promising approach to identifying the critical factors for the success of teleworking during COVID-19.

1.2. Teleworking during COVID-19

As mentioned before, teleworking during COVID-19 has unique features such as stress caused by the health and occupational uncertainty in the context of pandemic, limited access to child-care support due to closure of school and child-care facilities, social and professional isolation, and family-work conflict (Carillo, et al., 2020; Chang, et al., 2021; Wang, et al., 2021). These unique features of teleworking during COVID-19 may cause employees who work from home to suffer productivity and performance difficulties, as well as decreases in their satisfaction with this work practice (compare, Chang, et al., 2021). Only a few studies have investigated the challenges experienced by employees while teleworking during COVID-19 and their impact on individual work outcomes (e.g., job performance), as well as the factors that help teleworkers to deal effectively with these challenges (e.g., Carillo, et al., 2020; Chang, et al., 2021).

Based on a qualitative study, Wang, et al. (2021) found that the key challenges experienced by teleworkers during the pandemic, with detrimental effects on their work performance and well-being are work-family interference, ineffective communication with colleagues, supervisors, and clients, procrastination, and loneliness. Findings generated from their quantitative study revealed that social support and job autonomy helped teleworkers to cope effectively with these key challenges during COVID-19, whereas workload and monitoring from supervisors negatively affected their well-being. Self-discipline, an individual characteristic, acted as a moderator of the relationship between social support and loneliness, indicating a stronger negative association between social support and loneliness when self-discipline was high.

Vol. 23 • No. 58 • August 2021

AE

In their study, Carillo, et al. (2020) developed and tested a Crisis-induced Telework Adjustment framework, which includes individual (e.g., personal stress), job (e.g., work increase), and organizational factors (e.g., organizational support) as predictors of telework adjustment. This model also distinguishes between factors that are crisis specific (e.g., stress, professional isolation) and non-crisis specific (e.g., job autonomy). The results indicated that stress and professional isolation negatively influence telework adjustment, whereas adequate telework environment (i.e., adequate space and equipment) and workload had a positive impact on telework adjustment. Surprisingly, crisis-related organizational support was not found to have any impact on adjustment.

Unlike Carillo, et al. (2020), who used an overall measure of adjustment to telework, in this study three separate indicators of the adjustment construct, that is, perceived productivity, job performance, and satisfaction with telework were examined, because combining them in a composite score is likely to alter their relationship with the hypothesized predictors. Furthermore, in addition to individual, job, and organizational factors, home/work factors (Baruch and Nicholson, 1997) were considered as predictors of telework adjustment during the pandemic.

1.3. Determining factors of teleworking

Even if all employees are potential teleworkers, not all of them are suitable to become teleworkers, as specific skills are required for effectively coping with telework in general (Bélanger, 1999), and with telework during COVID-19 in particular (Wang, et al., 2021). Besides some specific skills such as computer knowledge (Bélanger, 1999), teleworkers must have good managements skills (e.g., be able to set their own goals; Konradt, et al., 2003), to be self-disciplined (Wang, et al., 2021), and have confidence in their ability to effectively manage the challenges of teleworking (i.e., self-efficacy; Raghuram, et al., 2003) among others. These *individual characteristics* have been found to be important resources in coping effectively with the demands of teleworking (Raghuram & Wiesenfeld, 2004), especially in the context of the pandemic (Wang, et al., 2021). In line with previous research on teleworking (Gajendran and Harrison, 2007; O'Neill, et al., 2014), effectiveness of telework during COVID-19 was expected to depend on employee *self-management tactics* such as planning work activities and setting goals, deciding the order of tasks in advance, setting start, break, and quitting times.

Telework environment, which includes the presence of good physical conditions (e.g., an adequate workspace) and the access to adequate technological equipment and tools required to perform the job tasks (Staples, et al., 1999) has been found to be an important aspect for teleworkers (e.g., Greer and Payne, 2014; Carillo, et al., 2020). For example, Carillo, et al. (2020) found that the appropriate telework environment was the second most important factor, which positively influenced employee adjustment to telework during COVID-19. Setting up an environment that is conductive to working helps employees to minimize distractions, noise, and interruptions that are likely to impede their job performance (Gist and Mitchell, 1992). In addition, teleworkers are likely to experience dissatisfaction if they have poor physical working conditions and inadequate teleworking tools (Bélanger, 1999).

Work-family conflict, defined as the incompatibility between work and family roles (Vaziri, et al., 2020) has been a major topic in the telework literature (Allen, et al., 2015). Despite the substantial interest concerning the effects of telework on work-family conflict, there is an

Amfiteatru Economic

inconclusive evidence regarding the work-family consequences of teleworking (Gajendran and Harrison, 2007). Some studies have shown that telework *increases* work-family conflict by making boundaries between work and life domains more permeable (Golden, et al., 2006), whereas other studies have found that teleworking *reduces* work-family conflict due to increased boundary flexibility (i.e., control over the location and timing of work) that allows employees to regulate and integrate work and family demands (Raghuram and Wiesenfeld, 2004). In their meta-analysis, Gajendran and Harrison (2007) found only a small effect of telework on work-family conflict, indicating that teleworking reduces work-family conflict. In addition, work-family conflict partially mediated the impact of telework on job satisfaction, but not on the performance measures (i.e., self-rated or objective performance). However, other meta-analyses provided strong evidence that lower work-family conflict has beneficial effects on job satisfaction and performance (Allen, et al., 2000; Amstad, et al., 2011).

In the context of telework during COVID-19, there were expected elevated levels of workfamily conflict, as many schools and child-care facilities have been closed due to the pandemic, and parents had additional responsibilities such as taking care of or homeschooling children (Rudolph, et al., 2021). Indeed, in their qualitative study, Wang, et al. (2021) found that work-home interference was the most-mentioned challenge for their employee sample while teleworking during COVID-19. Some participants in their study stated that the workflow was frequently interrupted by family responsibilities (e.g., taking care of children), which influenced negatively their work performance, whereas other participants mentioned the need to be "always available", which resulted in longer working hours and less time to meet family obligations. Vaziri, et al. (2020) found that about 40% of the employees in their sample reported high work-family conflict, whereas 38% experienced low work-family conflict during the COVID-19 pandemic.

Workload refers to a situation in which work demands exceed the resources available to fulfill these demands (Gilboa, et al., 2008) and it can be measured in terms of number of hours worked, amount of work in terms of volume, or mental demands of the work that is performed (Spector and Jex, 1998). Workload has been usually theorized as a job stressor with negative effects on performance, because it imposes demands on the employees who do not have the needed resources to meet these demands (Gilboa, et al., 2008). However, research has reported not only negative effects of workload on performance, but also positive and no effects (e.g, Spector and Jex, 1998), which may indicate that sometimes workload is perceived as a challenge, positively related to performance rather than a stressor.

Existing studies on telework during COVID-19 have also reported both positive and no associations between workload and self-reported performance (Carillo, et al., 2020; Wang, et al., 2021). For example, Carillo, et al. (2020) found that perception of increased workload was positively related to productivity, performance, and satisfaction with telework. Contrary to their expectations, Wang, et al. (2021) did not find a relationship between workload, identified as one of the key challenges of teleworking during COVID-19 and self-reported performance.

Organizational support has been identified as one of the success factors when implementing telework (Allen, et al., 2015). Research on perceived organizational support has revealed that support from organizations contributes to employees' overall job satisfaction and work performance by meeting their socio-emotional needs, rewarding their work efforts, and signalling that the aid from the organizations will be available when needed (Rhoades and Eisenberger, 2002).

Vol. 23 • No. 58 • August 2021

Given the challenges and uncertainties of the pandemic, organizational support may be even more important for teleworking effectiveness (compare, Rudolph, et al., 2021). In this context, organizations need to actively support their employees by providing not only immediate tangible resources such as tools and equipment, information and training required to work effectively from home, but also psychological and well-being resources such as assistance programs, feedback, informal meetings with colleagues (Kniffin, et al., 2020). Keller, et al. (2020) found that receiving additional support from the organization helped employees to be more productive while teleworking during COVID-19.

2. Research methodology

4E

In order to examine the relationship between individual and situational factors and the indicators of successful adjustment to telework during COVID-19, several hypotheses were proposed.

The use of self-management tactics helps employees to reduce distractions and deviations from the pre-planned work activities, increasing thus their work engagement (O'Neill, et al., 2014), which finally enhances their work productivity, performance, and job satisfaction (Konradt, et al., 2003; Raghuram, et al., 2001). Therefore, we postulate that:

 H_1 : Self-management tactics will be positively related to work productivity (H_{1a}), job performance (H_{1b}), and satisfaction with telework in the context of pandemic (H_{1c}).

Employees' perceptions of their work environment or work conditions have been found to influence their job performance (Carillo, et al., 2020). In particular, it has been found that good physical working conditions (e.g., adequate workspace and equipment) and distraction-free work environments are associated with higher levels of work performance (Gist şi Mitchell, 1992; Staples, et al., 1999) and job satisfaction (Bélanger, 1999). Therefore, we hypothesize that:

 H_2 : Telework environment (e.g., good physical conditions) will be positively related to work productivity (H_{2a}), job performance (H_{2b}), and satisfaction with telework in the context of pandemic (H_{2c}).

Work-family conflict (a form of role conflict) is considered to be a source of stress, which has negative effects on several work-related outcomes such as job satisfaction, organizational commitment, burnout, and job performance (Netemeyer, et al., 1996; Gilboa, et al., 2008; Amstad, et al., 2011). Thus, we postulate that:

H₃: Work-family conflict will be negatively related to work productivity (H_{3a}) , job performance (H_{3b}) , and satisfaction with telework in the context of pandemic (H_{3c}) .

Workload represents a stressful job demand, because employees need to invest more resources (e.g., time and energy) to mantain their performance at high levels when facing workload (Gilboa, et al., 2008). This may determine a decrease in job satisfaction (Spector and Jex, 1998), among others. Therefore, we propose that:

 H_4 : Workload will be negatively related to work productivity (H_{4a}), job performance (H_{4b}), and satisfaction with telework in the context of pandemic (H_{4c}).

Amfiteatru Economic

The support provided by organizations indicates to employees that they have at their disposal the needed resources (e.g., emotional resources) to cope with job demands, which decreases their stress levels and negative emotional reactions to work, leading eventually to an increased work performance and job satisfaction (Rhoades şi Eisenberger, 2002; Allen, et al., 2015; Beauregard, et al., 2019).

H₅: Organizational support for teleworking will be positively related to work productivity (\mathbf{H}_{5a}) , job performance (\mathbf{H}_{5b}) , and satisfaction with telework in the context of pandemic (\mathbf{H}_{5c}) .

For this analysis, we used survey data from 482 Romanian employees at a large Information Technology (IT) company. The respondents represent a sub-sample selected from a total of 837 employees who took part in a larger study on teleworking during COVID-19. We selected this sub-sample, as we wished to focus exclusively on full-time teleworkers. The data were collected in June 2020, during the state of alert period declared in Romania on May 15, 2020, following the nationwide lockdown that began on March 25, 2020 (European Agency for Fundamental Rights (FRA), 2020). An email describing the purpose of the study, with a link to an online survey was sent to a Human Resources representative, who then distributed it to all employees. In the email it was also explained that participation was voluntary and results would only be reported in an aggregated form, ensuring confidentiality.

Most participants in the sub-sample (95%) were permanent employees, with an average job tenure of 39.75 months (SD = 43.26). Participants' mean age was 33.29 years (SD = 6.95; the value of one participant was 2 and was omitted from the analysis) and 53% of them were male, with six participants (1%) not reporting their gender. Most of the participants (88%) were team members, who held a variety of positions (e.g., IT systems developers, testers), 9% of them were team managers, and 3% were top managers. Out of 481 participants, 108 (22%) reported that they had at least some child-care responsibilities while working, and 221 (46%) reported having a partner who worked full-time from home.

Self-management tactics were measured with five items developed by O'Neill, et al. (2014). Response options ranged from 1 (strongly disagree) to 7 (strongly agree). An example item is "I plan my day/work activities and follow through accordingly". The reliability (Cronbach's alpha) of this scale was 0.85.

The degree to which employees have *favorable conditions to work from home* was measured with single 5-point Likert scale items adapted from Carillo, et al. (2020). In particular, we measured the presence of good physical conditions ("I have an adequate space at home, where I can work without being distracted") and the provision of adequate telework tools ("I have the needed tools and equipment to work from home (e.g., computer, Internet etc.").

Work-family conflict scale developed by Netemeyer, et al. (1996), which consists of five items was used to measure work-family conflict. Items (e.g., "The demands of my work interfere with my home and family life.") were rated on a scale ranging from 1 (strongly disagree) to 7 (strongly agree). Cronbach's alpha was 0.94.

Workload was measured with five items adapted from the Quantitative Workload Inventory (Spector and Jex, 1998), on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). A sample item is "My job requires me to work very fast". Cronbach's alpha was 0.80.

Organizational support for teleworking was measured with eight items developed by Keller, et al. (2020), on a scale from 1 (strongly disagree) to 5 (strongly agree). A sample item is

Vol. 23 • No. 58 • August 2021

"My organisation ensured I have the equipment I need (e.g. computers, cameras, computer screens etc.), or would do so if I asked". Cronbach's alpha was 0.84.

Three indicators of adjustment to telework were measured with single 5-point Likert scale items built upon previous measures of employee adjustment to new work contexts (Raghuram, et al., 2001; Carillo, et al., 2020): *work productivity during telework* ("How do you evaluate your work productivity at home compared to work productivity in the office?"), *job performance during telework* ("How do you evaluate your work performance at home compared to work performance in the office?"), and *satisfaction with telework* ("How satisfied are you with your remote work?").

Control variables. Based on previous research on telework, we controlled for gender, age, job tenure, and job category (Bailey and Kurland, 2002; Raghuram, et al., 2003). Gender was coded as 0 = male and 1 = female, whereas job category was coded as 1 = top managers, 2 = team managers, and 3 = team members. Age was measured in years on a continuous scale and tenure in the job was calculated in months.

3. Analysis and results

4E

To test our hypotheses, we performed hierarchical regression analyses for each of the dependent variables, that is, work productivity, job performance, and satisfaction with telework, using SPSS software, version 23. Hierarchical regressions included five blocks of variables, with the first block consisting of control variables, that is, age, gender, and job tenure (Model 1). We dummy-coded gender using males as the reference group. The second block consisted of the dummy-coded variables for job category using top managers as a reference group, that is, team managers and team members (Model 2). In Model 3, we added a block consisting of the individual factor, self-management tactics. Model 4 included a block consisting of home/family factors, namely good physical conditions, adequate telework tools, and work-family conflict. In Model 5, we added a block consisting of the job factor, workload, and in Model 6, we included a block consisting of the variable organizational support for teleworking.

We checked whether the assumptions of regressions in terms of multicollinearity among the variables, the normal distribution of the residuals and the presence of multivariate outliers were met. We checked for multicollinearity using the VIF scores and concluded that there were no multicollinearity problems as the majority of these scores for all models were in the range of 1 (with a maximum value of 1.62). Furthermore, there were no problems with multivariate outliers, as only 12 cases (2.5%) of the standardized residuals for the models of work productivity, 21 cases (4.4%) for the models of job performance, and 23 cases (4.9%) for the models of satisfaction with telework were outside the limits (\pm 2). Regarding the normality of the residuals, the q-q-plots indicated that the residuals were normally distributed for all hierarchical regressions.

Means, standard deviations and correlations between the studied variables are presented in Table no. 1.

Amfiteatru Economic



Table no. 1. D	escriptive statistics	and correlations	between variables
----------------	-----------------------	------------------	-------------------

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1.Age	33.02	7.12	-										
2.Job tenure	37.19	40.25	0.33**	-									
3.Organizational support	3.86	0.65	0.10*	-0.01	-								
4.Workload	2.92	0.68	0.03	-0.02	-0.21**	-							
5.Good physical conditions	4.35	0.88	-0.01	-0.08	0.10^{*}	-0.04	-						
6.Adequate telework tools	4.42	0.83	-0.00	0.00	0.14**	-0.09	0.44**	-					
7.Work-family conflict	2.74	1.34	0.03	0.05	-0.27**	0.53**	-0.12*	-0.19**	-				
8.Self- management tactics	4.86	1.16	-0.07	-0.14**	0.25**	-0.28**	0.23**	0.25**	-0.42**	-			
9.Work productivity	3.51	0.90	-0.04	0.00	-0.02	0.09	0.31**	0.27**	-0.06	0.10^{*}	-		
10.Work performance	3.15	1.12	-0.10*	-0.09*	0.08	0.04	0.29**	0.30**	-0.02	0.14**	0.65**	-	
11.Satisfaction with telework	4.14	0.77	-0.08	-0.01	0.12**	0.00	0.36**	0.32**	-0.15**	0.19**	0.46**	0.48**	-

Note: * *p* < 0.05, ** *p* < 0.01

The results of the hierarchical regression analysis with work productivity, job performance, and satisfaction with telework as dependent variables are presented in Table no. 2, Table no. 3, and Table no. 4, respectively.

				I		
Model	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Step 1						
Age	-0.01	-0.01	-0.00	-0.00	-0.00	-0.00
Gender	-0.16*	-0.16	-0.17*	-0.15	-0.15	-0.17*
Job tenure	0.00	0.00	0.00	0.00	0.00	0.00
Step 2						
Team managers		-0.12	-0.14	-0.01	0.05	0.02
Team members		0.11	0.07	0.21	0.28	0.25
Step 3						
Self-management tactics			0.08*	0.01	0.02	0.02
Step 4						
Good physical conditions				0.28***	0.28***	0.28***
Adequate telework tools				0.25***	0.24***	0.25***
Work-family conflict				0.01	-0.04	-0.05
Step 5						
Workload					0.20**	0.19**
Step 6						
Organizational support						-0.09
ΔR^2	0.009	0.006	0.011	0.110	0.015	0.004
R^2	0.009	0.015	0.026	0.136	0.151	0.156
Adjusted R ²	0.003	0.004	0.013	0.119	0.133	0.136
F	1.49	1.43	2.05*	8.11***	8.25***	7.74***

Table no. 2. Hierarchical regression for work productivity

Note: Dummy-coded variables: gender: 0 = male, 1 = female; team managers: 0 = yes, 1 = no; team members: 0 = yes, 1 = no. * p < 0.05, ** p < 0.01, *** p < 0.001

Vol. 23 • No. 58 • August 2021

Teleworking During the COVID-19 Pandemic: Determining Factors of Perceived Work Productivity, Job Performance, and Satisfaction

Model	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Step 1						
Age	-0.01	-0.00	-0.00	-0.01	-0.00	-0.01
Gender	-0.10	-0.09	-0.10	-0.09	-0.09	-0.08
Job tenure	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
Step 2						
Team managers		-0.21	-0.24	-0.09	-0.06	-0.04
Team members		0.34	0.28	0.44	0.48	0.50
Step 3						
Self-management tactics			0.11**	0.05	0.05	0.04
Step 4						
Good physical conditions				0.27***	0.28***	0.28***
Adequate telework tools				0.37***	0.36***	0.36***
Work-family conflict				0.06	0.03	0.04
Step 5						
Workload					0.11	0.12
Step 6						
Organizational support						0.08
ΔR^2	0.015	0.021	0.014	0.108	0.003	0.002
R^2	0.015	0.037	0.050	0.158	0.162	0.164
Adjusted R ²	0.009	0.026	0.038	0.142	0.144	0.144
F	2.41	3.55*	4.11**	9.69***	8.93***	8.23***

Note: Dummy-coded variables: gender: 0 = male, 1 = female; team managers: 0 = yes, 1 = no; team members: 0 = yes, 1 = no. * p < 0.05, ** p < 0.01, *** p < 0.001

Table no. 4.	Hierarchical	regression	for	satisfaction	with	telework
--------------	--------------	------------	-----	--------------	------	----------

Model	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Step 1						
Age	-0.01	-0.00	-0.00	-0.01	-0.01	-0.01
Gender	-0.11	-0.11	-0.13	-0.11	-0.11	-0.10
Job tenure	0.00	0.00	0.00	0.00	0.00	0.00
Step 2						
Team managers		0.07	0.04	0.16	0.19	0.22
Team members		0.37*	0.30	0.43*	0.47**	0.49**
Step 3						
Self-management tactics			0.12***	0.04	0.04	0.04
Step 4						
Good physical conditions				0.26***	0.26***	0.26***
Adequate telework tools				0.22***	0.22***	0.21***
Work-family conflict				-0.03	-0.06*	-0.06*
Step 5						
Workload					0.13*	0.14**
Step 6						
Organizational support						0.08
ΔR^2	0.013	0.019	0.036	0.143	0.010	0.004
R^2	0.013	0.031	0.067	0.210	0.220	0.225
Adjusted R ²	0.006	0.021	0.055	0.195	0.204	0.206
F	1.99	3.04**	5.61***	13.68***	13.06***	12.15***

Note: Dummy-coded variables: gender: 0 = male, 1 = female; team managers: 0 = yes, 1 = no; team members: 0 = yes, 1 = no.* p < 0.05, ** p < 0.01, *** p < 0.001

Amfiteatru Economic

Hypothesis 1a, which predicted that self-management tactics would be positively related to work productivity was supported. As can be seen in Table no. 2, Model 3 which included the variable self-management tactics explained in total 2.6% of the variance in work productivity, with a modest increase in variance of 1.1% compared to Model 2.

Hypotheses 1b and 1c, which stated that self-management tactics would be positively related to job performance and satisfaction with telework, respectively were also supported. Model 3 explained in total 5% of the variance in job performance, with a modest increase in variance of 1.4% compared to Model 2 (Table no. 3), whereas it explained in total about 7% of the variance in the satisfaction with telework, with an increase in variance of 3.6% compared to Model 2 (Table no. 4).

Our results that self-management tactics (i.e., individual factor) were positively related to work productivity, job performance, and satisfaction with telework are consistent with previous research, which has shown positive associations between employee self-management skills and work performance as well as well-being while teleworking during COVID-19 (Wang, et al., 2021). These results suggest that in the context of teleworking during during COVID-19, employees' abilities to structure and guide their work behavior (e.g., plan their work activities, set goals) represent important resources in coping effectively with the challenges and demands imposed by the pandemic.

Hypothesis 2a that telework environment (i.e., good physical conditions and adequate telework tools) would be positively associated with work productivity was supported. As shown in Table no. 2, Model 4 that included home/family factors showed an increase of 11% in the variance of work productivity to a total variance of 13.6%. Hypotheses 2b and 2c, which predicted that good physical conditions and adequate telework tools would be positively related to job performance and satisfaction with telework, respectively were also supported. Model 4 showed an increase of about 11% in the variance of job performance to a total variance of 15% (Table no. 3), whereas it showed an increase of about 14% in the variance of satisfaction with telework to a total variance of 21% (Table no. 4). The finding that adequate telework conditions, that is, good physical conditions (having an adapted workplace at home) and availability of necessary tools and equipment were positively associated with all three work outcomes is not surprising given the sudden and mandatory nature of teleworking during COVID-19, which left employees (some of them without any previous experience with telework) unprepared and ill-equipped, without the equipment needed to perform their work tasks.

Surprisingly, despite the hypothesized associations between work-family conflict and work productivity, job performance, and satisfaction with telework (Hypotheses 3a, 3b, 3c), work-family conflict was not found to have an impact on any of these outcomes (see Model 4 in Tables no. 2, 3, and 4). Our finding that work-family conflict does not related to job performance is consistent with the results of Gajendran and Harrison's (2007) meta-analysis, but contradicts studies that have found such a relationship (Amstad, et al., 2011; Wang, et al., 2021). A possible explanation for the lack of association between work-conflict and the work outcomes is that only 22% of the participants included in this study reported having child-care responsibilities, and about 46% of them had a partner working full-time from home. Thus, it might be that our employee sample experienced a low work-family conflict (indeed, the mean rating of about 3.0 was below the midpoint of the work-family conflict

Vol. 23 • No. 58 • August 2021

scale), without significant consequences for their productivity, performance, and satisfaction with telework.

Contrary to Hypotheses 4a and 4c, workload was positively related to work productivity and satifaction with telework, respectively, but it did not significantly correlate to job performance (see Model 5 in Table no. 3). Model 5 explained about 15% of the variance in work productivity, with a small increase in variance of 1.5% compared to Model 4 (Table no. 2), whereas it explained 22% of the variance in satisfaction with telework, with a small increase in variance of 1% compared to Model 4 (Table no. 4). Although these results are in the opposite direction to what we have expected, they are however consistent with Carillo, et al.'s (2020) findings that increased workload leads to better adjustment to telework during the pandemic. A possible explanation for these findings is that workload was perceived by teleworkers as a challenge rather than a stressor, and thus increased their internal arousal, and consequently their work productivity and satisfaction with telework (Gilboa, et al., 2008). In their meta-analysis, Gilboa, et al. (2008) found a stronger relationship between workload and quantitative performance than between workload and qualitative performance, which may provide an explanation for our finding that workload was associated with productivity, but not with job performance, which is defined as the assessment of the quality of the work done by employees.

Hypotheses 5a, 5b, and 5c predicted that organizational support for teleworking would be positively associated with work productivity, job performance, and satisfaction with telework, respectively. Interestingly and contrary to these hypotheses, organizational support for teleworking was not related to any of these adjustment indicators (see Model 6 in Tables no. 2, 3, and 4). These results are in accordance with the findings of Carillo, et al. (2020), which indicate that the effect of organizational support on the overall measure of adjustment to telework was not significant. Possibly, the form of organizational support included in this study was insufficient to ensure desirable work outcomes and attitudes for the employees who worked on a full-time basis from home. In addition, the fact that the organizational support did not help employees to better deal with the demands of teleworking during COVID-19 might suggest the need to adapt the support provided to the employees' personal characteristics such as age, gender, self-management skills (Carillo, et al., 2020). This may enhance the teleworker-environment fit and, thus, ensure desirable work-related outcomes (Bentley, et al., 2016).

It should be noted that none of the control variables included in Model 1, and the dummycoded variables of job category included in Model 2 were statistically significant, except for the dummy-coded variable team members when satisfaction with telework was used as a dependent variable (Table no. 4). The positive relationship between team members and satisfaction with telework indicates that the employees who were team members were more satisfied with telework than those who were top managers.

Conclusions

Æ

The present study extends the literature on teleworking during COVID-19, by exploring the situational (i.e., home/family, job, and organizational factors) and individual factors that influence the indicators of adjustment to telework, that is, perceived work productivity, job performance, and satisfaction. The results indicated that home/family factors (i.e., the need for adequate telework conditions) and individual factors (i.e., self-management tactics) are

Amfiteatru Economic

important predictors for all three indicators of adjustment to telework during COVID-19. Home/family variables explained the highest proportion of the variance in adjustment to telework indicators. Although good physical conditions (having an adapted workplace at home) and availability of necessary tools and equipment were found to be important determining factors of perceived work productivity, job performance, and satisfaction with telework during the pandemic, work-family conflict was not found to impact any of these outcomes. Furthermore, workload, the job factor included in our study, was found to be an important predictor for work productivity and satisfaction with telework, but not for job performance. Surprisingly, organizational support for teleworking (i.e., organizational factor) was not a significant predictor for any of the indicators of adjustment to telework during COVID-19.

This study has several potential *limitations*. First, the data were self-reported, which may enhance social desirability response biases. Future studies should include, for example, external or objective measures of performance to minimize the biases associated with self-reported data. Second, this is a cross-sectional study and, thus, our results should be interpreted as correlational. It would be useful to conduct longitudinal studies to track the changes in employee adjustment to telework, especially in the context of high rates of telework that are likely to remain post-COVID-19 (Carillo, et al., 2020). Third, although our employee sample comprised a variety of positions, all of them worked for the same IT company. It would be useful to replicate our findings by gathering data from multiple organizations, from the same or different industry. In addition, as teleworking was predominantly used by workers in knowledge and IT sectors (Eurofound, 2021), IT professionals might be more prepared to work from home, and thus more likely to better adjust to telework during the pandemic. Future studies should determine whether our findings can be generalized to other professional categories (e.g., white-collar workers or those with low digital skills) and other industries.

Despite these limitations, the current study makes significant *contributions to the literature and practice*. Results of this study indicate that favorable telework environment, individual self-management skills, and job characteristics (i.e., workload) are particularly important in influencing the way employees cope with the unique demands and challenges poses by teleworking during the pandemic. Our results also highlight the need to use individual indicators of adjustment to telework rather than aggregating them in a composite indicator, as we found that work productivity, job performance, and satisfaction with telework (i.e., the individual indicators of adjustment construct) are associated with different predictors.

The findings of this study have also important practical implications. Adequate telework environment was an importnat determining factor for all work outcomes, which suggests that ensuring good telework conditions and the necessary IT equipment and tools to accomplish job tasks would be an effective way to increase employee adjustment to telework during the COVID-19 pandemic. Our study also adds to the body of evidence that self-management strategies are important for employee effectiveness and satisfaction in the context of telework during COVID-19. Thus, organizations that want to improve employees' productivity and performance, as well as their satisfaction should develop training programs to help them acquire the necessary self-management strategies such as how to plan and prioritize work activities, how to set goals, and how to organize their schedule.

Given the fact that employees' perception of workload was found to influence their productivity and satisfaction with telework, managers should be concerned about workload

Vol. 23 • No. 58 • August 2021

balancing, such that workload should not be too high or too low. In addition, managers should ensure that job roles of teleworkers align with their competencies and capabilities, which would make them less likely to perceive a workload imbalance, and consequently ensure desirable work outcomes.

Future research avenues should focus on identifying the mediating and/or moderating factors of the relationship between the determining factors of telework included in this study and work productivity, performance, and job satisfaction during the pandemic. For example, it might be interesting to examine the moderating effect of task interdependence in the relationship between workload and employee work-related outcomes, as this job characteristic was found to amplify the effects of telework on performance (Wang, et al., 2021). Also of great importance in future research is the investigation of the differences between the effects that contextual and situational factors have on work productivity, performance, and job satisfaction for high telework intensity versus low telework intensity, and the examination of other dependent variables such as burnout, work engagement, counterproductive work behaviours (Rudolph, et al., 2021; Wang, et al., 2021).

References

Æ

- Allen, T.D., Golden, T.D. and Shockley, K.M., 2015. How effective is telecommuting? Assessing the status of our scientific findings. *Psychological Science in the Public Interest*, 16(2), pp.40-68.
- Amstad, F.T., Meier, L.L., Fasel, U., Elfering, A. and Semmer, N.K., 2011. A meta-analysis of work–family conflict and various outcomes with a special emphasis on cross-domain versus matching-domain relations. *Journal of occupational health psychology*, 16(2), pp.151-169.
- Bailey, D.E. and Kurland, N.B., 2002. A review of telework research: findings, new directions, and lessons for the study of modern work. *Journal of Organizational Behavior*, 23(4), pp.383-400.
- Baruch, Y. and Nicholson, N., 1997. Home, sweet work: requirements for effective homeworking. *Journal of General Management*, 23(2), pp.15-30.
- Beauregard, A.T., Basile, K.A. and Canónico, E., 2019. Telework: Outcomes and facilitators for employees. In: R. N. Landers ed., 2019. *The Cambridge handbook of technology and employee behavior*. Cambridge: Cambridge University Press, pp.511-543.
- Bentley, T.A., Teo, S.T., McLeod, L., Tan, F., Bosua, R. and Gloet, M., 2016. The role of organisational support in teleworker wellbeing: A socio-technical systems approach. *Applied Ergonomics*, 52, pp.207-215.
- Bélanger, F., 1999. Workers' propensity to telecommute: An empirical study. Information & Management, 35(3), pp.139-153.
- Carillo, K., Cachat-Rosset, G., Marsan, J., Saba, T. and Klarsfeld, A., 2020. Adjusting to epidemic-induced telework: empirical insights from teleworkers in France. *European Journal of Information Systems*, 30(1), pp.69-88.
- Chang, Y., Chien, C. and Shen, L.F., 2021. Telecommuting during the coronavirus pandemic: Future time orientation as a mediator between proactive coping and perceived work productivity in two cultural samples. *Personality and Individual Differences*, 171, pp.1-7.

Amfiteatru Economic

- Eurofound, 2021. COVID-19: Implications for employment and working life. COVID-19 series. Luxembourg: Publications Office of the European Union.
- European Agency for Fundamental Rights (FRA), 2020. Coronavirus pandemic in the EU-Fundamental Rights Implications. [online] Available at: https://fra.europa.eu/ [Accessed 15 June 2021].
- Gajendran, R. S. and Harrison, D. A., 2007. The good, the bad, and the unknown about telecommuting: Meta-Analysis of psychological mediators and individual consequences. *Journal of Applied Psychology*, 92(6), pp.1524-1541.
- Gajendran, R.S., Harrison, D.A. and Delaney- Klinger, K., 2014. Are telecommuters remotely good citizens? Unpacking telecommuting's effects on performance via i- deals and job resources. *Personnel Psychology*, 68(2), pp.353-393.
- Gilboa, S., Shirom, A., Fried, Y. and Cooper, C., 2008. A meta- analysis of work demand stressors and job performance: examining main and moderating effects. *Personnel* psychology, 61(2), pp.227-271.
- Gist, M.E. and Mitchell, T.R., 1992. Self-efficacy: A theoretical analysis of its determinants and malleability. *The Academy of Management Review*, 17(2), pp.183-211.
- Golden, T.D., 2006. Avoiding depletion in virtual work: Telework and the intervening impact of work exhaustion on commitment and turnover intentions. *Journal of Vocational Behavior*, 69, pp.176-187.
- Golden, T.D., 2009. Applying technology to work: Toward a better understanding of telework. *Organization Management Journal*, 6(4), pp.241-250.
- Golden, T.D. and Veiga, J. F., 2005. The impact of extent of telecommuting on job satisfaction: Resolving inconsistent findings. *Journal of Management*, 31(2), pp.301-318.
- Greer, T.W. and Payne, S.C., 2014. Overcoming telework challenges: Outcomes of successful telework strategies. *The Psychologist-Manager Journal*, 17(2), pp.87-111.
- Keller, A.C., Knight, C. and Parker, S. K., 2020. Boosting Job Performance When Working from Home: Four Key Strategies. [online] Available at: [Accessed 18 March 2021]">https://www.siop.org/>[Accessed 18 March 2021].
- Kniffin, K.M., Narayanan, J., Anseel, F., Antonakis, J., Ashford, S., Bakker, A.B., Bamberger, P., Bapuji, H., Bhave, D.P., Choi, V.K., Creary, S.J., Demerouti, E., Flynn, F.J., Gelfand, M., Greer, L.L., Johns, G., Kesebir, S., Klein, P., Lee, S., Ozcelik, H. and van Vugt, M., 2020. COVID-19 and the workplace: implications, issues, and insights for future research and action. *American Psychologist*, 76(1), pp.63-77.
- Konradt, U., Hertel, G. and Schmook, R., 2003. Quality of management by objectives, taskrelated stressors, and non-task-related stressors as predictors of stress and job satisfaction among teleworkers. *European Journal of Work and Organizational Psychology*, 12(1), pp.61-79.
- Kramer, A. and Kramer, K.Z., 2020. The potential impact of the COVID-19 pandemic on occupational status, work from home, and occupational mobility. *Journal of Vocational Behavior*, 119, pp.1-4.
- Martin, B.H. and MacDonnell, R., 2012. Is telework effective for organizations? A metaanalysis of empirical research on perceptions of telework and organizational outcomes. *Management Research Review*, 35(7), pp.602-616.

Vol. 23 • No. 58 • August 2021



- Netemeyer, R.G., Boles, J.S. and McMurrian, R., 1996. Development and validation of workfamily conflict and family-work conflict scales. *Journal of Applied Psychology*, 81(4), pp.400-410.
- O'Neill, T.A., Hambley, L.A. and Chatellier, G.S., 2014. Cyberslacking, engagement, and personality in distributed work environments. *Computers in Human Behavior*, 40, pp.152-160.
- Raghuram, S., Garud, R., Wiesenfeld, B. and Gupta, V., 2001. Factors contributing to virtual work adjustment. *Journal of Management*, 27(3), pp.383-405.
- Raghuram, S., Wiesenfeld, B. and Garud, R., 2003. Technology enabled work: The role of self-efficacy in determining telecommuter adjustment and structuring behavior. *Journal* of Vocational Behavior, 63(2), pp.180-198.
- Raghuram, S. and Wiesenfeld, B.M., 2004. Work- nonwork conflict and job stress among virtual workers. *Human Resource Management*, 43(2-3), pp.259-277.
- Rhoades, L. and Eisenberger, R., 2002. Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, 87(4), pp.698-714.
- Rudolph, C.W., Allan, B., Clark, M., Hertel, G., Hirschi, A., Kunze, F., Shockley, K., Shoss, M., Sonnentag, S. and Zacher, H., 2021. Pandemics: Implications for research and practice in industrial and organizational psychology. *Industrial and Organizational Psychology*, 14(1-2), pp.1-35.
- Spector, P.E. and Jex, S.M., 1998. Development of four self-report measures of job stressors and strain: Interpersonal conflict at work scale, organizational constraints scale, quantitative workload inventory, and physical symptoms inventory. *Journal of Occupational Health Psychology*, 3(4), pp.356-367.
- Staples, S.D., Hulland, J.S. and Higgins, C.A., 1999. A self-efficacy theory explanation for the management of remote workers in virtual organizations. *Organization Science*, 10(6), pp.758-776.
- Toscano, F. and Zappalà, S., 2020. Social isolation and stress as predictors of productivity perception and remote work satisfaction during the COVID-19 pandemic: The role of concern about the virus in a moderated double mediation. *Sustainability*, 12(23), 9804.
- Vaziri, H., Casper, W.J., Wayne, J.H. and Matthews, R.A., 2020. Changes to the work– family interface during the COVID-19 pandemic: Examining predictors and implications using latent transition analysis. *Journal of Applied Psychology*, 105(10), pp.1073-1087.
- Wang, B., Liu, Y., Qian, J. and Parker, S.K., 2021. Achieving effective remote working during the COVID-19 pandemic: A work design perspective. *Applied Psychology: An International Review*, 70(1), pp.16-59.

636

Æ