

Factors and challenges influencing work-related outcomes of the enforced work from home during the COVID-19 pandemic: Preliminary evidence from Indonesia

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Abstract

This study investigates the socio-demographic factors and work from home challenges associated with job satisfaction and work performance. Using a cross-sectional survey design and convenience sampling, data from 482 Indonesian employees were gathered via a web-based questionnaire. Bivariate analysis was used to assess job satisfaction and work performance differences across several socio-demographic factors. Hierarchical linear regression was performed to identify the contribution of socio-demographic factors and work from home challenges on job satisfaction and work performance. All work from home challenges, with the exception of social isolation, linked significantly to job satisfaction and work performance. However, no significant differences in job satisfaction and work performance were found across most socio-demographic factors. Our final model suggests that, after controlling socio-demographic and work from home challenges, the length of employment and job satisfaction were the most significant determinants of work performance. This study provides insights for organizations wishing to raise employees' satisfaction, and maximize the benefits gained by addressing work from home challenges, by improving some of the less favorable work from home practices of the past.

KEYWORDS

COVID-19, job satisfaction, socio-demographic factors, work from home, work performance

1 | INTRODUCTION

The COVID-19 crisis has forced organizations worldwide to implement work from home (WFH). This measure was taken to control the spread of the virus while still running and maintaining the business. The International Labour Organization (ILO, 2020) defined WFH in the context of the COVID-19 pandemic as: “a working arrangement in which a worker fulfills the essential responsibilities of his/her job while remaining at home, using information and communications technology.” In this study, the term is used interchangeably with tele-

work, which is a broader concept that includes working from locations away from the primary worksite or the employer's premises, such as mobile working (Offstein et al., 2010). The telework concept was first introduced in the 1970s due to the first international oil crisis (Allen et al., 2015) and gained popularity with technological advancement. While the practice of telework in developed countries accounted for 10%–50%, the share of the jobs that can be done at home in developing countries (e.g., Indonesia) is only 2%–3% (Gottlieb et al., 2020). This work arrangement, however, has gained momentum due to the COVID-19 crisis, which may present as a learning

medium for organizations regarding the advantages and disadvantages.

Since the declaration of the first case of COVID-19 in March 2020, the Indonesian government has encouraged social distancing campaigns, enforced partial policies in several cities, and implemented WFH arrangements. Adopting this mandatory work arrangement might bring particular challenges for most Indonesian organizations. Some obstacles, such as the Indonesian high-context culture, lack of dedicated workspace and equipment to complete the works, and the slow internet connection, may reduce the potential productivity of effective WFH (Mustajab et al., 2020; Suarlan, 2017). A qualitative study in Indonesia reported some advantages and challenges encountered by workers while working at home, followed by a decline in productivity (Mustajab et al., 2020). On the other hand, quantitative studies have shown the contrary results; productivity and job satisfaction were relatively good (Dwidienawati et al., 2020; Susilo, 2020) despite the increased challenges and new working experiences.

The benefits of teleworking crucially depend on individuals' social economies, characteristics (Allen et al., 2015; Nakrošienė et al., 2019), and challenges (Raišienė et al., 2020; Wang et al., 2020). While telework has the potential to improve productivity and various economic and social indicators in the long term, its overall impacts—due to the enforced and sudden implementation of the practice—are still inconsistent and carry risks, especially for innovations and workers' satisfaction (Green, 2020; OECD, 2020). These may have negative consequences on workers' efficiencies and organizations' productivity. Accordingly, scholars need to identify whether they serve as risk or protective factors associated with workers' outcomes in the pandemic context.

There are some studies on the effectiveness of WFH practice amid the COVID-19 pandemic in Indonesia. For example, in a qualitative study, Mustajab et al. (2020) reported reduced employees' productivity despite some advantages they experienced such as increased work-life balance and reduction in time and cost traveling to work. Similarly, Putro and Riyanto (2020) found that sandwich-generation employees were difficult to create both time and space boundaries, which led to higher levels of stress. Contrasting results were observed in other quantitative studies, which found increased job satisfaction and job performance (Dwidienawati et al., 2020; Irawanto et al., 2021; Susilo, 2020). However, no studies have investigated potential factors influencing work-related outcomes. Therefore, this study aimed to fill this research gap by examining to what extent socio-demographic factors and WFH challenges are associated with job satisfaction and work performance while working at home during the COVID-19 pandemic in Indonesia. This study attempts to contribute to

the WFH literature in three aspects. First, it adds specific context due to the COVID-19 pandemic in which employees were suddenly shifting into a mandatory work arrangement. Second, in terms of the cultural context, the study offers preliminary evidence for the WFH practice in an Asian developing country where such work arrangement is highly unusual and less favorable. Third, to the best of our knowledge, this study is the first one that explores how socio-demographic factors and WFH challenges impact employees' job satisfaction and work performance, two major outcomes of sustainable human resource management. It is expected that the COVID-19 pandemic serves as ideal timing to prepare and gain advantages over this practice both for organizations and workers.

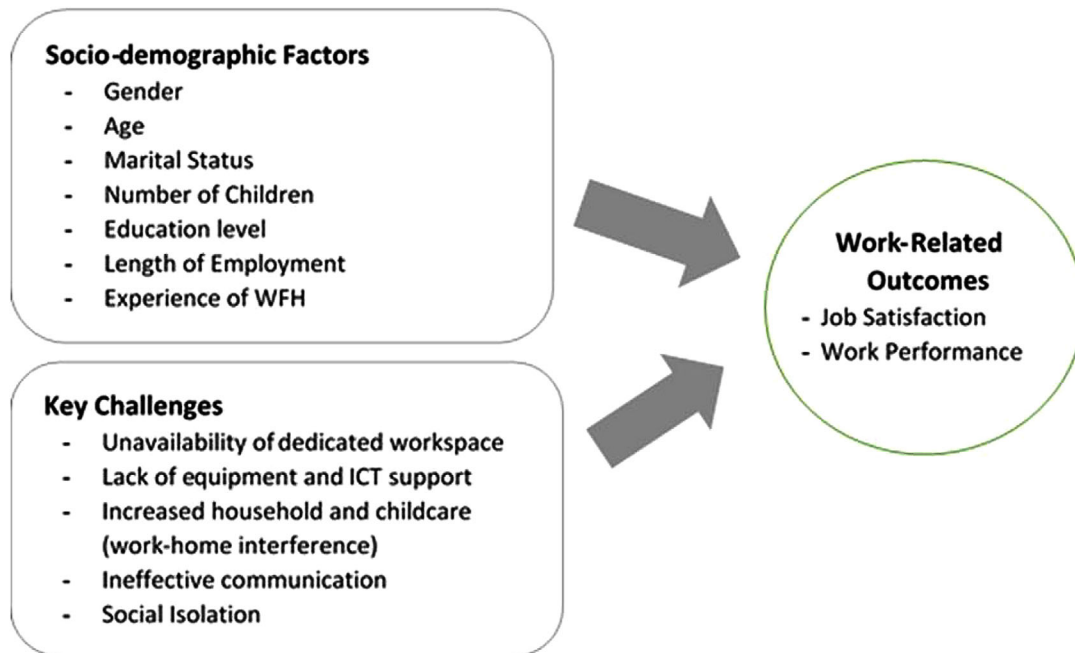
The rest of this paper is organized as follows. The next section presents the literature review on critical variables and their interrelationship, followed by hypothesis formulation. Section 3 describes the research methodology. The results and their interpretation are illustrated in Section 4 according to the proposed hypothesis. The fifth section discusses the findings in light of prior literature. The paper concludes with the main findings, practical implications, limitations, and recommendations for future work.

2 | LITERATURE REVIEW

2.1 | Socio-demographic factors and the challenges of work from home

Prior to the COVID-19 pandemic, empirical research suggested that socio-demographic characteristics and key challenge factors influence employees' job satisfaction and work performance when performing telework (Aboelmaged & El Subbaugh, 2012; Nakrošienė et al., 2019). We might assume that there is enough knowledge to understand risk and protective factors influencing work-related outcomes. However, the previously accumulated knowledge might have a less relevant context in the COVID-19 crisis, which has abruptly forced many organizations to implement WFH. Thus, we need to investigate how such a circumstance has affected the experience of working remotely. Exhibit 1 illustrates the potential WFH influencing factors in the pandemic, selected from a rapid review of the literature. These factors are further discussed in the following.

Socio-demographic characteristics have been identified as important factors related to the telework outcomes prior to and during the pandemic (Allen et al., 2015; Nakrošienė et al., 2019; Raišienė et al., 2020). Beyond the pandemic crisis, Nakrošienė et al. (2019) found that gender and age were related to job satisfaction and productivity of Lithuanian teleworkers. Nevertheless, similar effects were not



Source: authors' compilation.

EXHIBIT 1 Work from home (WFH) factors: socio-demographic and key challenges

Source: authors' compilation

observed among married or single employees. On the other hand, Raišienė et al. (2020) suggested that gender, age, educational attainment, length of employment, and telework experience affected telework efficiency and quality. Feng and Savani (2020) found that the COVID-19 crisis created more gender gaps in self-reported productivity and job satisfaction. An extensive survey in the early stages of the pandemic revealed that women are at high risk for psychological distress associated with being less productive and other negative behaviors (Stevens, 2020) as well as the occurrences of cognitive and emotional disorders (Kirkman, 2020) than their men counterparts. However, Awada et al. (2021) and Galanti et al. (2021) have shown contradictory findings that women's productivity is relatively similar to men. Meanwhile, research before the pandemic has reported increased work-life balance among those who are married and with children at home (Allen et al., 2015; Nakrošienė et al., 2019). Nonetheless, such demographic groups might not enjoy this benefit because increased work-home interferences have been reported during the COVID-19 crisis, which raised potential work-life conflict (Wang et al., 2020).

Beyond the pandemic context, the flexibility of telework offers numerous advantages, such as better work-life balance, reduced commuting time, and increased job autonomy in both time and space, which have been acknowledged to be beneficial for well-being and performance outcomes (Allen et al., 2015; Gajendran and Harrison, 2007). The use of digital means—a combination

of workforce analytics data and cutting-edge technology—can improve organizational performance by facilitating the tracking, monitoring, and measuring of teleworkers performance (Harrower, 2019; Olsen, 2019; Wingard, 2019). However, the mandatory pandemic-induced telework may limit these benefits because workers encounter exacerbated WFH-related challenges. We identified five WFH challenges representing workers' immediate psychological experiences in completing tasks, interpersonal collaborations, and social connections with family and friends.

First, the importance of having a designated working space has been associated with better work-family conflict management and higher job performance (Gajendran & Harrison, 2007; Lopez-Leon et al., 2020; Susilo, 2020) because it will minimize the distraction of others' presence while working at home. Setting boundaries between work and life becomes increasingly difficult while working and living in the same environment. Second, it is crucial to have the necessary equipment or working tools, proper ergonomics, and a fast and secure internet connection (Lopez-Leon et al., 2020; Wang et al., 2020) to maintain or even enhance productivity and workers' engagement. However, the sudden forced shift to WFH left workers without sufficient preparations and teleworking tools. Compared to the other Asian neighboring countries, such as Singapore (226.6 Mbps), Thailand (175.2 Mbps), and Malaysia (91.5 Mbps), the internet connection speed in Indonesia (22.3 Mbps) is still far behind and

considered as costly for the users (World Population Review, 2021). Third, increased child care demands and household chores, due to the closure of the school and child care facilities, are potential risk factors for workers' well-being and efficiencies, especially when workers are not able to manage the work-home interferences (Kengatharan, 2020; Wang et al., 2020; Wong et al., 2020). Schieffman et al. (2021) demonstrated decreased work-life conflict during the initial lockdown of COVID-19 was reported among Canadian workers with no children at home while the contrast finding was experienced in parents depending on the age of the youngest child. Meanwhile, a qualitative study among expatriates has also revealed that despite increased work-life conflict at the beginning of the quarantine, the expatriates' family's positive role later has had a beneficial influence on their work-life balance and harmony (Mello & Tomei, 2021). Fourth, since virtual communication is the most used communication medium during the pandemic, collaborations and communications with coworkers, supervisors, and clients might become ineffective because it is limited by personal, organizational, and technological means (Awada et al., 2021). Whilst the difficulty to communicate with different parties then may act as a great barrier towards successful WFH (Green et al., 2020; Wang et al., 2020), communication is essential for minimizing the adverse impacts of the abrupt change to WFH by maintaining usual work processes (Obrenovic et al., 2020). Fifth, social isolation has also been highlighted in the COVID-19 crisis as people were isolated from their colleagues and friends and extended families (Galanti et al., 2021; Green et al., 2020; Wang et al., 2020). Toscano and Zappalà (2020) suggested that social isolation had an indirect sequential effect on remote work satisfaction and productivity and is moderated by concern about the virus. In their recent study among Romania teleworkers, Nemteanu et al. (2021) underlined the insufficient interaction and support from supervisors and/or coworkers favored counterproductive work behaviors. Nevertheless, they did not have significant influences on task and contextual performance. Regarding the inconsistent results of the previous studies, there is a need to investigate whether the socio-demographic factors and the five aforementioned key challenges affect work-related outcomes of pandemic-induced WFH in Indonesia.

Hence, the following hypotheses are proposed:

H1: Job satisfaction will differ across socio-demographic factors (gender, age, marital status, number of children, education level, length of employment, and WFH experience) and WFH challenges (availability of workspace, increased work-home interferences, lack of equipment and ICT support, ineffective communication, and social isolation).

H2: Work performance will differ across the socio-demographic factors and WFH challenges described in H1.

2.2 | Working from home, job satisfaction, and work performance

Job satisfaction and work performance are among the most common work-related outcomes, which have been investigated in relation to telework or WFH (Allen et al., 2015; Dwidienawati et al., 2020; Irawanto et al., 2021; Kazekami, 2020; Nemteanu et al., 2021; Nemteanu & Dabija, 2021). In their meta-analysis study, Gajendran and Harrison (2007) have identified that the beneficial effects of telework were as associated with positive individual outcomes such as job satisfaction, productivity, turnover intention, and role stress. However, working remotely more than 2.5 days a week might harm relationships with coworkers, implying a possible moderation role of telework intensity. Two main reasons for these positive consequences are that doing tasks remotely means less disturbance while working, and time-saving from not commuting (Gajendran & Harrison, 2007; OECD, 2020).

Nonetheless, the results of the studies on the effect of WFH on job satisfaction and productivity during the pandemic were inconclusive, even conducted in one country. Morikawa (2020) found that Japanese teleworkers experienced decreased self-reported productivities whereas Kazekami (2020) demonstrated that telework practice increased employees' happiness and satisfaction but did not influence their productivities. In the United States, dual-career parents (Feng & Savani, 2020) reported less productivity and satisfaction. Another survey revealed that 60% of the US teleworkers reported more satisfaction with their jobs than before the pandemic without changes in their productivities (Parker et al., 2020). The latter finding was emphasized in a more recent survey, which showed that 83% of the US employers and 71% of the employees perceived a successful shift to remote work because of COVID-19 (PwC, 2021). Contradictive findings were also observed in Indonesia. Although Mustajab et al. (2020) found decreased performance, other studies in Indonesia suggested that WFH increased job satisfaction (Dwidienawati et al., 2020; Irawanto et al., 2021) and job performance (Susilo, 2020).

Meanwhile, the causal link between job satisfaction and performance has been the leading research interest in industrial and organizational psychology. Both empirical and meta-analysis studies have explored the role of job satisfaction as an antecedent of job performance (Edwards et al., 2008; Judge et al., 2001; Organ & Ryan, 1995). Scholars have highlighted that telework employees who feel

more satisfied with their work are less likely to resign and show better quality of work and productivities (Bloom et al., 2015; Martin & MacDonnell, 2012; Tavares, 2017). On the other hand, poor working conditions, in which telework context covers unavailability of dedicated workspace, more work-home interferences, insufficient equipment, poor internet connection, ineffective communication, and social isolation (Ipsen et al., 2021; Wang et al., 2020; Wong et al., 2020), may create job dissatisfaction (Herzberg et al., 1959) that hinders effective work performance.

However, job satisfaction and work performance are less studied simultaneously in the WFH context during the COVID-19 crisis. Existing research has mainly focused on the impacts of WFH on well-being or one aspect of work-related behavior outcomes (Afrianty et al., 2021; Ipsen et al., 2021; Raišiene et al., 2020; Sutarto et al., 2021). A few studies, for example, Susilo (2020), proposed a model, which showed the significant mediating role of job satisfaction on the pathways between WFH and work performance. However, a similar effect did not exist between the work conditions, which consisted of a dedicated workspace and a good internet connection. Furthermore, there is still a lack of studies identifying the significant WFH factors that influence job satisfaction and work performance. The duration of the pandemic is still unpredicted, and many organizations have been estimated to implement WFH practice as a permanent future working arrangement. Therefore, we aim to identify the factors influencing work-related outcomes during the enforced WFH in Indonesia.

Based on the existing theories, we hypothesize that:

- H3: WFH challenges would account for a significant amount of variance in work performance beyond socio-demographic factors
- H4: Job satisfaction would account for a significant amount of variance in work performance beyond socio-demographic and WFH challenges.

3 | METHOD

3.1 | Participants and procedures

This exploratory study employed a cross-sectional design and was implemented by distributing a web-based questionnaire operationalized according the literature (Koopmans, 2016; Song et al., 2020; Wang et al., 2020). The data were collected by snowball sampling strategy through the authors' networks and social media platforms between June 24 and July 14, 2020. Researchers commonly adopted such a sampling strategy during the COVID-10 pandemic due to social distancing and time and resource constraints

(Awada et al., 2021; Delanoeije, 2019; Song et al., 2020). A convenient sample of 532 workers in Indonesia who were WFH during the COVID-19 crisis completed our questionnaires and resulted in 482 valid responses with no missing values (88.9% of completion rate). Ethics approval was obtained from the local Institutional Review Board. Participation was voluntary, and the respondents were assured of the confidentiality of their responses.

3.2 | Measures

The work performance scale from the individual work performance questionnaire (Koopmans, 2016) measured the self-perceived work performance. This five-item scale measures individuals' proficiencies and abilities to perform the core substantive task of the job (e.g., "I was able to plan my work so that I finished it on time," "I managed my time well"). This five-item scale measures individuals' proficiencies and abilities to perform the core substantive task of the jobs. All items were rated using a five-point rating scale (0 = seldom to 4 = always) and validated in the Indonesian population (Widyastuti & Hidayat, 2018). The reliability coefficient of Cronbach α for this study was .87. The operationalization and validation of the work performance instrument is displayed in Exhibit 2. Factor loadings for most items are approximately close to 0.70, which means that the variability explained in the item by the theorized factor is around 50% (Knekta et al., 2019). Job satisfaction was measured with a single-item measure adapted from the overall job satisfaction scale of the Michigan Organizational Assessment Scale (Song et al., 2020). A five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used to assess the participant rating of agreement with the item "I am satisfied with my job during the period of working from home." The WFH challenges factors were nominal variables, measured in binary format responses (yes/no). Participants were asked whether, while working from home they encountered the following challenges: lack of dedicated workspace, lack of equipment and ICT support, increased work-home interference, ineffective communication, and social isolation.

3.3 | Statistical analysis

Numeric variables were presented as mean and standard deviation (SD) and categorical variables as absolute (n) and relative frequency (%). Age, length of employment, and the number of children were expressed as numeric variables while gender, marital status, were categorical variables. To answer H1 and H2, the bivariate association between age, length of employment, number of children, job

EXHIBIT 2 Operationalization of the construct

Construct	Measurement	Loading	Cronbach α
Work performance	I was able to plan my work so that I finished it on time.	0.716	.87
	I kept in mind the work result I needed to achieve.	0.501	
	I was able to set priorities.	0.662	
	I was able to carry out my work efficiently.	0.773	
	I managed my time well.	0.703	

satisfaction, and work performance was analyzed by the Pearson correlation. Independent *t*-tests or one-way ANOVA were employed for categorical variables, depending on the number of categories. A hierarchical regression analysis was conducted to test H3 and H4 by determining the unique and significant contributions of socio-demographic, WFH-challenges, and job satisfaction on the dependent variable work performance. A similar analysis was also applied by prior studies in the WFH context (Carrillo et al., 2020; Delanoëje, 2019; Galanti et al., 2021; Nakrošienė et al., 2019). The results were presented as beta, adjusted R^2 , change in adjusted R^2 , and *F* statistics. Statistical analysis was performed using the statistical package SPSS IBM 23. The R package lavaan (Rosseel, 2012) was employed to evaluate the operationalization of work performance construct. All tests were two-tailed with significance levels of .05.

4 | RESULTS

4.1 | Descriptive statistics

Exhibit 3 presents the main socio-demographic attributes of respondents. The sample comprised 58.3% ($N = 201$) of women and 41.7% ($N = 281$) of men, with the mean age was 38.6 years ($SD = 8.36$ years). More than 85% of respondents were married and the average number of children was 1.86 ($SD = 1.21$). The majority of respondents had higher education levels (50.4% postgraduate and 40.9% bachelor's degrees), and only 8.7% had less than bachelor degree education. Before the COVID-19 pandemic, 82.8% of respondents did not have prior WFH experience. Regarding WFH challenges, the unavailability of a dedicated workspace is the most mentioned challenge (67%), followed by work-home interferences (44.8%). Respondents also reported a relatively high level of satisfaction (3.61) and self-reported productivity (3.74) with a scale from 1 to 4.

4.2 | Bivariate analysis

Respondents with more children reported less significant work performance ($F = -0.1$, $p < .05$), while other socio-

demographic variables were not significant in work performance, as shown in Exhibit 3. With regard to WFH challenges, workers who reported having no dedicated workspace at home ($t = -2.14$, $p < .05$), lack of supportive equipment and internet connection ($t = 2.36$, $p < .05$), increased work-home interferences ($t = 2.24$, $p < .05$), and ineffective communication ($t = 2.46$, $p < .05$) perceived significantly less productive.

In terms of job satisfaction, workers who attained bachelor's degrees ($F = 4.18$, $p < .05$) and had prior WFH experiences before the pandemic ($t = -2.01$, $p < .05$) felt more satisfied with their jobs. Similar to work performance, those who reported the unavailability of the dedicated workspace ($t = -2.14$, $p < .05$), lack of supportive equipment ($t = 2.13$, $p < .01$), increased work-home interferences ($t = 1.91$, $p < .05$), and difficulties to communicating with coworkers or clients ($t = 3.76$, $p < .01$) were less satisfied with their job during the pandemic. The social isolation did not significantly affect neither the work performance ($t = -0.44$, $p = 0.66$) nor the job satisfaction ($t = -0.13$, $p = .45$).

4.3 | Hierarchical regression

Before creating the hierarchical regression model, a correlation analysis was conducted to assess the correlation between all variables. No very high correlation was found between all variables ($0.001 < |r| < 0.674$), as shown in Exhibit 4. The variance inflation factor (VIF) values ranged from 1.07 to 2.44 in all regression models, much lower than the critical value of 10, indicating no severe multicollinearity.

The results of the regression analyses are presented in Exhibit 5. Following the recommendation of Cohen et al. (2003), in the initial step, we regressed work performance on socio-demographic variables (gender, age, marital status, number of children, educational level, length of employment, and WFH experience). The number of children ($\beta = -.13$, $p < .05$) was negatively correlated with work performance, meaning that having more children resulted in lower productivity. The education attainment, length of employment, and having prior WFH experience

EXHIBIT 3 Sample characteristics and differences

Variables	Count (%) or mean (SD)	Work performance		Job satisfaction	
		Mean (SD)	<i>t</i> , <i>F</i> , or ρ test	Mean (SD)	<i>t</i> , <i>F</i> , or ρ test
Gender					
1. Women	281 (58.3%)	3.73 (0.72)	-0.29	3.57 (1.08)	-0.76
2. Men	201 (41.7%)	3.76 (0.73)		3.64 (1.02)	
Age	38.62 (8.36)		0.01 ^a		0.05 ^a
Education level					
1. < Bachelor degree	42 (8.7%)	3.74 (0.76)	0.98	3.24 (1.10)	4.18*
2. Bachelor degree	197 (40.9%)	3.80 (0.72)		3.71 (1.06)	
3. Post-graduate	243 (50.4%)	3.67 (0.72)		3.60 (1.00)	
Length of employment (yrs)	10.35 (7.38)		0.06 ^a		-0.01 ^a
Marital status					
1. Married	411 (85.3%)	3.73 (0.72)	2.06	3.63 (1.04)	1.03
2. Divorced/widowed	18 (3.7%)	4.08 (0.74)		3.78 (1.06)	
3. Single	53 (11%)	3.71 (0.68)		3.43 (1.09)	
Number of children	1.86 (1.21)		-0.1 ^{*,a}		-0.02 ^a
WFH experience					
1. No	399 (82.8%)	3.84 (0.79)	-1.3	3.82 (1.00)	-2.01*
2. Yes	83 (17.2%)	3.72 (0.71)		3.57 (1.05)	
Workspace availability					
1. No	323 (67%)	3.85 (0.71)	2.14*	3.75 (1.01)	2.28*
2. Yes	159 (35.5%)	3.69 (0.72)		3.54 (1.06)	
Lack of equipment and ICT support					
1. No	311 (64.5%)	3.8 (0.77)	2.36*	3.47 (1.03)	2.13**
2. Yes	171 (35.5%)	3.64 (0.62)		3.68 (1.05)	
Work-home interference					
1. No	266 (55.2%)	3.69 (0.99)	2.24*	3.70 (1.00)	3.76**
2. Yes	216 (44.8%)	3.51 (1.09)		3.27 (1.11)	
Ineffective communication					
1. No	381 (79%)	3.78 (0.74)	2.46*	3.70 (1.00)	3.76**
2. Yes	101 (21%)	3.59 (0.64)		3.27 (1.11)	
Social isolation					
1. No	324 (67.2%)	3.74 (0.70)	-0.44		0.13
2. Yes	158 (32.8%)	3.76 (0.76)		3.61 (1.10)	
Job satisfaction	3.61 (1.04)			3.60 (0.97)	
Work performance	3.74 (0.72)				

Notes: $N = 482$. Independent *t*-test for two categories, one-way ANOVA (*F* statistics) for more than two categories.

^aPearson correlation ρ for numeric variables.

* $p < 0.05$, ** $p < 0.01$.

factors were independently associated with self-reported work performance.

In the second step, the addition of WFH challenges factors explained a significant part of the variance on self-reported productivities (adj $R^2 = 0.05$, $p < .001$). The lack of a dedicated workspace, inadequate equipment and internet connection, increased work-home interferences, and difficulties communicating with coworkers

were significant determinants of work performance (all $p < .05$).

In the third step, after entering job satisfaction, the R^2 coefficient increased significantly from 6% to 23% ($p < .001$), suggesting that our final predictors could explain the work performance much better. However, the effects of the number of children and marital status were diminished ($\beta = -0.09$, $p = .053$, and $\beta = .09$, $p = .069$,

EXHIBIT 4 Correlations between all variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13		
1 Gender (baseline: female)	1														
2 Age (yrs)	-.07	1													
3 Single (reference)	-	-	1												
Married	-.08*	.32***		1											
Divorced	.10*	.12**	-.47***		1										
4 Children (#)	-.10*	.35***	.43***	-.05	1										
5 < Bachelor (reference)	-	-	-	-	-	1									
Bachelor	.10*	-.08*	-.02	.11**	-.01	1									
Postgraduate	-.12**	.37***	.15***	-.02	.06	-.22***	1								
6 Length of employment (yrs)	-.02	.67***	.25***	.06	.24***	-.01	.26***	1							
7 WFH experience	.06	.04	.05	.04	.08	.03	.01	-.06	1						
8 Workspace availability	.01	-.22***	-.14	-.02	-.06	-.03	-.21***	-.14**	-.12*	1					
9 Work-home interferences	.13**	-.08*	.14**	.01	.16***	.02	-.07	-.08*	.06	.09*	1				
10 Lack of equipment and ICT support	-.01	-.15**	-.14**	.01	-.09*	-.02	.02	-.11**	-.03	.08*	-.14**	1			
11 Ineffective communication	-.04	-.06	-.10*	.01	-.06	.03	-.03	-.05	-.05	.03	-.17***	-.01	1		
12 Social isolation	-.13*	.07	.02	-.07	-.04	-.05	.05	-.04	.04	-.10*	-.34***	-.021***	-.03	1	
13 Job satisfaction	.03	.05	.04	.03	-.02	<.01	-.01	-.01	.09*	-.10*	-.09*	-.10*	-.17***	-.01	1
14 Work performance	-.01	<.01	-.03	.09*	-.10*	.02	-.07	.06	.06	-.10*	-.10*	-.11**	-.11**	.02	.46***

Notes: yrs = years.

* $p < .05$, ** $p < .01$, *** $p < .001$.

EXHIBIT 5 Results of hierarchical regression

	Variables	Regression 1	Regression 2	Regression 3
Step 1: Socio-demographic	Gender (ref: female)	-.02	-.02	-.03
	Age (yrs)	-.04	-.09	-.12
	Marital (ref: single)			
	Single or married	.07	.05	.03
	Single or widowed/divorced	.11*	.11	.09
	Children (#)	-.13*	-.11*	-.09
	Education (ref: < bachelor)			
	< Bachelor vs. bachelor	-.01	-.01	-.004
	< Bachelor or postgraduate	-.08	-.09	-.07
	Length of employment (yrs)	.12	.10	.15**
Experience of WFH	.06	.05	.02	
Step 2: WFH challenges	Workspace availability		.10*	.07
	Lack of equipment and ICT support		-.14**	-.08
	Work-home interference		-.15**	-.07
	Ineffective communication		-.14**	-.06
	Social isolation		-.07	-.01
Step 3: Job satisfaction	Job satisfaction			.29***
	Adj R^2	.02	.06	.23
	ΔR^2	.04	.05	.16
	ΔF	1.993*	3.201***	10.494***

Notes: Ref = reference.

* $p < .05$, ** $p < .01$, *** $p < .001$.

respectively), while the length of employment became a significant determinant to work performance ($\beta = .15$, $p < .01$). Interestingly, all previous significant WFH challenges were no longer associated with work performance. The final regression equation with a standardized coefficient (β) for each predictor is fully shown in the equation below.

$$Y = 3.08 - 0.03D_1 - 0.12X_1 + 0.03D_2 + 0.09D_3 - 0.09X_2 - 0.004D_4 - 0.07D_5 + 0.15X_3 + 0.02D_6 + 0.07W_1 - 0.08W_2 - 0.07W_3 - 0.06W_4 - 0.01W_5 + 0.29X_4 + \varepsilon$$

where:

- Y = work performance (IWPQ scores)
- D_1 = gender (1: male)
- X_1 = age (years)
- D_2 = married vs others (1: married)
- D_3 = divorced/widowed vs others (1: divorced/widowed)
- X_2 = children (#)
- D_4 = bachelors vs others (1: bachelors)
- D_5 = postgraduates vs others (1: postgraduates)
- X_3 = length of employment (years)

- D_6 = experience of WFH (1: yes)
- W_1 = Workspace Availability (1: yes)
- W_2 = Lack of equipment and ICT support (1: yes)
- W_3 = Work-home interference (1: yes)
- W_4 = Ineffective communication (1: yes)
- W_5 = Social isolation (1: yes)
- X_4 = job satisfaction scores
- ε = residual

5 | DISCUSSION

This study aimed at exploring the socio-demographic factors and WFH challenges that influence employees' satisfaction and performance during the COVID-19 pandemic. We found that the respondents felt satisfied when working at home and had relatively high self-reported productivities despite the potential barriers during this crisis. Since the current WFH is a new form of working experience, it seems that most organizations have adopted a more compassionate and less strict approach to their workers' productivity. From workers' perspectives, they experienced a novelty of working, which used to be a luxury, only reserved for higher-income earners and white-collar workers (Desilver, 2020).

Moreover, the bivariate analysis showed that WFH challenges had more significant impacts on job satisfaction and work performance than most socio-demographic factors. Our model implied that the length of employment and job satisfaction were significant determinants of teleworkers' performances, while other predictors were independently related. These findings are discussed in more detail below.

5.1 | Association between socio-demographic factors, job satisfaction, and work performance

Not as expected, gender was associated with neither job satisfaction nor work performance. This result was contradictory to some previous studies (Feng & Savani, 2020; Raišiene et al., 2020; Stevens, 2020) but consistent with a previous study under normal circumstances (Nakrošienė et al., 2019), which has shown no gender differences in terms of productivity and job satisfaction. In the current pandemic, Wong et al. (2020) found that female workers benefited from WFH in which they can manage caring responsibilities; however, Galanti et al. (2021) did not observe the difference between male and female teleworkers regarding their work-related outcomes. Most of our respondents had high education levels which might explain why men and women could share additional child care and household tasks without experiencing declines in their work-related outcomes during the pandemic.

Another interesting finding is that younger and older workers reported the same job satisfaction and work performance levels. This result is contrary to the results of previous studies that younger workers perceived more WFH advantages because it offers freedom to plan time and job autonomy (Nakrošienė et al., 2019; Raišiene et al., 2020). However, Raišiene et al. (2020) underlined that the attitudes of the older and younger generations toward WFH advantages were not apparent. Our possible explanation is that the virtual working characteristics, such as flexibility and job autonomy, were not perceived differently by various age groups because the current telework is involuntary, regardless of the suitability of occupation for teleworking.

We also found that marital status did not influence telework outcomes, although it is somewhat counterintuitively, previous literature revealed conflicting results on the impact of marital status on productivity. For example, Giovanis (2018) found that married teleworkers were likely to show better work performance to be more productive than their counterparts, primarily due to time flexibility that allowed them to better manage their time between work and family responsibilities. On the contrary, Igarria and Guimaraes (1999) suggested that increased role conflict caused married teleworkers to become less productive,

while other studies showed that there is no influence of marital status on productivity when doing WFH (Aboelmaged & El Subbaugh, 2012; Nakrošienė et al., 2019; Wong et al., 2020).

The negative impact of the number of children on WFH was found to be significant on work performance, which is in accordance with Nakrošienė et al. (2019), who found a positive correlation between the difficulties in managing work-family balance and increased number of children. This issue has particularly been emphasized in the COVID-19 crisis, leading to decreased perceived work performance.

Respondents with educational degrees less than bachelor's reported the lowest satisfaction with their jobs, although their perceived work performance was similar to their educational counterparts. Our finding confirmed a prior study (Raišiene et al., 2020), which found that lower education teleworkers did not experience organizing their work independently, leading to lower job satisfaction, involvement, and organizational commitment.

Our findings on the insignificant relationship between the length of employment, job satisfaction, and work performance are contrary to a previous study (Raišiene et al., 2020). However, in a nonpandemic context, the role of length of employment on job satisfaction and work performance is mixed and inconclusive, suggesting further research (Sarker et al., 2003).

Furthermore, respondents with no prior WFH experiences were less satisfied with their jobs than experienced workers, which may be accounted for due to a lack of preparation and equipment support (PwC, 2021). Nevertheless, both groups of workers reported a relatively similar work performance. It seems that workers can handle flexible work options during a crisis regardless of their decreased well-being and health impact, which are aligned with the findings of prior studies (Guler et al., 2021; Sutarto et al., 2021). Another plausible explanation might be the lower task-related demands imposed by their organizations to adapt to the new mandatory working arrangement (Tronco Hernandez, 2020).

5.2 | Association between work from home challenges, job satisfaction, and work performance

Our results revealed that the unavailability of dedicated working spaces, lack of proper equipment and an unstable internet connection, increased work-home interferences, and ineffective communication are the critical WFH factors impacting work performance and job satisfaction. It seems that workers were likely to face the same WFH challenges despite the diversity of their socio-demographic characteristics. These results are consistent with the

suggestions by Wang et al. (2020), Green et al. (2020), and Wong et al. (2020) about the key challenges for successful WFH in the pandemic context. However, contrary to our initial expectations, social isolation had neither a significant impact on job satisfaction nor work performance, partially supporting H1 and H2. This result contradicts previous findings (Galanti et al., 2021; Toscano & Zappalà, 2020) that social isolation is negatively related to work satisfaction and productivity both directly and indirectly. We argue that at the early stages of the pandemic employees were less likely to consider social isolation as a significant barrier to their work-related outcomes in comparison with other WFH challenges. Furthermore, our sample participants were predominantly with a mean age of 38.62 years, married, and had children. Research has shown that social networking is more important for younger and living-alone workers who find most of their social networks from their professional networks such as colleagues (Wilson, 2021). These provide plausible explanations for the lack of association between social isolation and work-related outcomes. Different results may be expected in future studies because Indonesia continues to adjust restrictions, concerning that the first-wave COVID-19 cases have not reached the peak yet at the time of our study being conducted.

5.3 | Determinants of work performance

Our final hierarchical regression model showed significant improvement in R^2 , which implies that job satisfaction explains much better work performance as compared to prior regression when only including socio-demographic and WFH challenges variables. This finding supports H3 and H4 and extends the evidence of prior studies about the influence of job satisfaction on productivities in usual teleworking (Allen et al., 2015; Nakrošienė et al., 2019) to the pandemic context (Nemteanu & Dabija, 2021; Raišiene et al., 2020; Susilo, 2020).

We also found that most socio-demographic factors were not significant predictors of self-reported work performance, which were consistent with other telework studies' results before and during the pandemic (Aboelmaged & El Subbaugh, 2012; Wang et al., 2020; Wong et al., 2020). Aligned with our findings, in their final hierarchical regression model, Galanti et al. (2021) also found that gender, age, prior WFH experience, and the presence of children were also not related to employees' productivity and work engagement. Furthermore, the effects of workspace availability, work-home interferences, lack of equipment and internet support, and ineffective communication diminished when job satisfaction was included. This finding implied that the use of hierarchical regres-

sion could demonstrate the unique effect of job satisfaction after controlling WFH challenges. Since multicollinearity is not an issue, it might be explained that WFH challenges and job satisfaction were likely to explain a lot of the same variability in work performance. This is supported by the results of bivariate analysis (see Exhibit 3), which revealed the significant differences of the aforementioned challenges variables on job satisfaction and work performance. Therefore, there is also a possibility that job satisfaction may act as a mediator role in the relationship between these variables and work performance. Those who felt less satisfied with their jobs arising from lack of dedicated workspace, increased work-home interferences, lack of equipment and ICT support, and ineffective communication were likely to report reduced work performance.

On the other hand, length of employment becomes a significant determinant to work performance. We interpreted this finding that the addition of job satisfaction has suppressed the underlying pattern of the length of employment in the final regression. As a result, length of employment is more strongly associated with work performance in the multilinear regression model than in the bivariate analysis (Mackinnon et al., 2000). Since this study is explorative, further studies are warranted to clarify the possibility of the mediating role of job satisfaction and the suppressing effects by employing a more rigorous method and advanced statistical analysis.

6 | CONCLUSIONS

This study expands the existing knowledge on telework into the COVID-19 pandemic context in which many employees were forced to WFH. Our study showed that job satisfaction and work performance were related to WFH challenges, but not with most of the socio-demographic factors. Our final model shows that variation in work performance was explained much better by job satisfaction when statistically controlling socio-demographic and WFH challenges. This finding suggests that providing good working conditions and addressing WFH challenges may lead to higher job satisfaction and improved performance.

Our findings also imply that the current WFH may be suitable for Indonesia's new work arrangement. This enforced practice offers a learning opportunity for organizations to evaluate what worked and did not work and in what ways WFH could be best managed to benefit both workers and organizations (Green, 2020). To enhance WFH effectiveness, it is essential that workers' satisfaction is high enough to mitigate the potentially adverse effects of WFH challenges (OECD, 2020). The personal and job characteristics should be adjusted so that some workers may

experience more satisfaction from teleworking. Organizations should encourage arrangements that provide workers with appropriate working environments (e.g., adequate ICT equipment, office spaces, or child care) because the workers' performances depend crucially on working conditions. The commonly adopted strategies were providing cash allowance for home-office equipment, strengthening IT software and infrastructures, and promoting key management skills (OECD, 2020; Wong et al., 2020). A company can also use technology to digitalize the management of employees during WFH, which covers tracking, monitoring, and measuring workers' performance and activities (Harrower, 2019; Olsen, 2019; Wingard, 2019).

This study has several limitations. Our cross-sectional design with a self-report measure raises causality inferences and social desirability concerns. Future studies should capture WFH experiences by employing a longitudinal strategy that allows the long-term effects of telework and its influencing factors. Second, due to the restriction of social distancing, our convenient sample limits us to generalizability. Future studies may consider a more representative population with mixed sampling strategies to obtain a larger sample size and diverse demographic characteristics. Third, the relatively low final model R^2 value (0.23) implies that other variables may be involved in explaining work performance. However, in social sciences, it is not possible to include all the relevant predictors to explain an outcome variable, which might lead to a lower R^2 value (Moksony, 1990). As a preliminary study, we focused on establishing a unique contribution of several WFH variables, which has not been investigated previously, particularly in the Indonesian context. Thus, a low value of R^2 does not necessarily indicate that the impact is not substantive. Nevertheless, further research would benefit from a more extensive model in which more WFH indicators, such as job characteristics (e.g., type of industries, professional levels), and personal traits (e.g., self-discipline, motivation) (Kramer and Kramer, 2020; Wang et al., 2020) are assessed. Furthermore, binary responses may limit us from capturing more information. However, a shorter scale may produce higher completion rates and reduce possibly fatigue effects (Dolnicar et al., 2011). Besides, there are no significant differences in the reliability and validity between binary and Likert-type scales (Dolnicar et al., 2011; Mclauchlan et al., 2020).

Although not all hypotheses were supported, we could provide preliminary evidence on the enforced WFH practice in Indonesia, which was less favorable before the COVID-19 crisis, by exploring the WFH-related factors that determine job satisfaction and work performance. Notwithstanding, the limited scope of a specific country, there may be implications for other developing countries and beyond the context of the pandemic.

ACKNOWLEDGMENTS

The authors would like to acknowledge all the respondents for their voluntary participation.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

AUTHOR CONTRIBUTIONS

Auditya Purwandini Sutarto, Shanti Wardaningsih, and Wika Harisa Putri conceived and designed this work. Shanti Wardaningsih and Wika Harisa Putri collected the data. Auditya Purwandini Sutarto conducted data analysis, data interpretation, and prepared the original manuscript draft. Shanti Wardaningsih and Wika Harisa Putri edited the manuscript and supervised the study. All authors reviewed and approved the submitted version.


DATA AVAILABILITY STATEMENT

The data are available from the corresponding author upon reasonable request.

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How to cite this article: Sutarto, A. P., Wardaningsih, S., & Putri, W. H. (2022). Factors and challenges influencing work-related outcomes of the enforced work from home during the COVID-19 pandemic: Preliminary evidence from Indonesia. *Global Business and Organizational Excellence*, 41(5), 14–28. <https://doi.org/10.1002/joe.22157>