

Occupational Stress Assessment and Its Impact on Job Performance During Work from Home

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Abstract

The stay-at-home order during the Coronavirus Disease 2019 (COVID-19) outbreak has forced people to minimize unnecessary activities outside their homes. The shift of working conditions caused by the pandemic has brought unfamiliar behavior throughout working days. Behavioral changes are believed to be one of the most significant factors that caused occupational stress in office workers. This unexpected phenomenon that brought companies to implement Work from Home has initiated people to question the reliability and effectiveness of doing this implementation. In this research, the assessment was conducted to obtain the level of job stress and job performance. The result obtained from comparing the Work from Home and Work from Office condition is that Work from Home has brought significant job stress levels compared to Work from Office condition, especially towards female workers. The result also found that the sub-scales job stress, role expectation conflict, and co-worker support have a significant impact on all job performance sub-scales during Work from Home.

Keywords

Work from Home (WFH), Occupational Stress, New Job Stress Scale, Individual Work Performance Questionnaire (IW PQ), and PLS-SEM.

1. Introduction

In March 2020, Coronavirus Disease 2019 (COVID-19) was declared by the World Health Organization as a pandemic. As the virus spread through inhaling droplets that may contain the virus, maintaining distance with others is highly recommended. Following the rapid spread of the virus globally, many countries have closed their borders and implemented the stay-at-home order to minimize the risk of COVID-19 transmission towards their citizens. In Indonesia, the first two cases were discovered on March 2 and the number of people infected by it keeps growing afterward. Two weeks after the first two cases were discovered, the President held a press conference announcing the encouragement of staying at home meaning that working, studying, and worshipping will only be conducted at home (WHO 2020). Hundreds of companies in Indonesia, especially those who are located in Jakarta start to close their offices temporarily and implement the Work from Home (WFH) policy towards their workers as COVID-19 preventive measures. Along with the Large-Scale Social Restriction or Pembatasan Sosial Berskala Besar (PSBB) on 31 March 2020, Work from Home is also implemented forcing hundreds of workers to stay at home during this pandemic and conduct their work at home.

As Work from Home is conducted at home, some workers are mainly relaxed knowing they have all the time and they don't have to commute to work. But the flexibility of time could be crucial to the business process of the company. In exchange for their relaxed working behavior, the higher above will push their workload and even give them a higher amount of work compared to when working at the office. After an interview with experts, a higher workload given during Work from Home combined with a home-life situation that should be dealt with believed to lead workers to prioritize one of them. The sudden change of working behavior has forced workers to adapt to a new practice of working. A sudden change of behavior combined with a regular or even higher workload is believed to be one of the factors that could raise job stress (Prasad and Vaidya 2018). With the current pandemic and sudden behavioral change, workers are susceptible to experience job stress while job stress itself would lead to the decrement of job performance (Kazmi et al. 2008).

The effectiveness of work is measured by the productivity and performance of a worker. When a worker experiences job stress, the working process in an organization is lacking in terms of punctuality and quality. Productivity is the actions that bring the company to its goals. Productivity is a key to accomplishing the organization's vision and mission while job stress is truly an avoidable obstacle that could be easily overcome if matters regarding job stress are taken seriously in the organization. Workers' productivity is believed to be decreased they are under pressure yet they are pushing their adaptive capacities to their limit to comply with the demand that they are not capable of. Productivity decrements will bring the organization to find disruption in areas where their workers experience job stress. Even one worker could bring a significant impact of job stress on the performance of an organization (Bamba 2016).

1.1 Objectives

This research aims to assess and compare the job stress and job performance level during Work from Home and Work from Office condition on workers that reside in Jabodetabek and Bandung and are implementing both Work from Home and Work from Office condition. This research proposed strategy to reduce job stress during Work from Home and to increase performance.

2. Literature Review

2.1 Work From Home during COVID-19

The World Health Organization (WHO) has declared CoronaVirus Diseases- 19 (COVID-19) as a pandemic that has become a problem internationally. COVID- 19 has forced people to maintain their distance from each other as sources stated that droplets of saliva or discharge from the nose of an infected person are how the virus spread. (WHO, 2020). As office buildings are all closed due to minimizing physical contacts and gatherings, most companies start to implement Work from Home towards their workers. With the urgency of social distancing and stay-at-home order all around the world, thousands of workers are forced to work from home. Although not all sectors of jobs implement the Work from Home order because of the task that obligates their worker to operate in their regular workplace, the majority of conventional office workers has already implemented it (Bick et al. 2020). There are much feedbacks from the workers regarding Work from Home implementation during the COVID-19 outbreak. Some stated that they face difficulties as coordination and communication can be challenging during Work from Home and it reduces their productivity. But there is also contrary feedback stating that they have all the time in the world to manage, they have more family time, and so on. Thus, Work from Home during the COVID-19 has advantages and disadvantages (Bick et al. 2020).

2.2 Occupational Stress

Occupational stress is an occurrence that raises unfavorable health, performance, and well-being concerns of an organization. The initial cause of occupational stress is general stress itself that brought workers to experience a phase where they need an understanding of a current situation that they are currently facing. This phenomenon has brought a bad impact and affects the positive attitude of a worker in an organization (Yousaf et al. 2019). When a worker experiences pressure during their work, they might feel motivated to learn the issue that they are lacking. But if the pressure is unacceptable towards their psychological well-being, they will experience some sort of stress. Activities that are considered to be influential towards occupational stress include the organizational work, work design, management, work condition that is poorly managed. Occupational stress demands an exceptional coping mechanism that the worker should take in advance, while occupational stress itself is not something that everyone could see coming even some of them couldn't realize that they are suffering from it (Antonova 2016).

2.3 PLS-SEM

Structural Equation Modeling or SEM is a statistical model that explains the relationship between multiple variables. This method examines the interrelationships among a series of equations. Specification, estimation, and evaluation of a model are conducted by using the technique. There are two types of SEM, covariance-based SEM (CB-SEM) and variance-based SEM (VB-SEM or PLS-SEM). Both are different regarding the model that will be employed. CB-SEM is appropriate when conducting a test and confirmatory research while PLS-SEM is more appropriate to be used in the development of the objectives. Steps in PLS-SEM consist of model specification, model estimation, outer model, and inner model evaluation.

2.4 Importance Performance Analysis (IPA)

Importance Performance Analysis was first initiated by Martilla and James in 1977 to improve marketing strategy, but the method is suitable for ranking and comparing other strategies besides marketing. This method visualizes the

improvements needed for the observed state and facilitates decision-making in investigating the root cause. This method will first evaluate the importance of an attribute and how the performance it. Each of the attributes will become one in a four quadrants scatter plot as shown in Figure 1 (Siniscalchi et al. 2008).

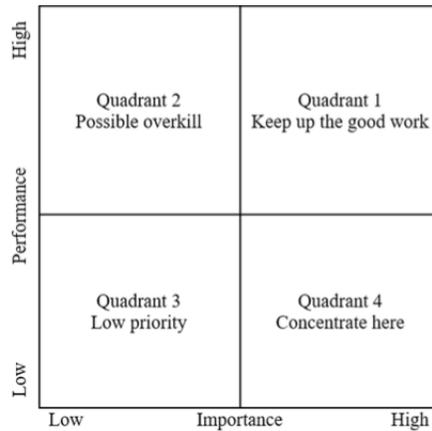


Figure 1. The standard IPA chart
 Source: (Esmailpour et al. 2020)

3. Methods

There are two different approaches of variables in this research including exogenous (independent) and endogenous (dependent) variables. The exogenous latent variable of this research includes sub-scales of the New Job Stress Scale and the endogenous latent variable of this research includes sub-scales of the Individual Work Performance Questionnaire (IWPQ). Each of the relationships between variables from Figure 2 is formulated into 12 hypotheses.

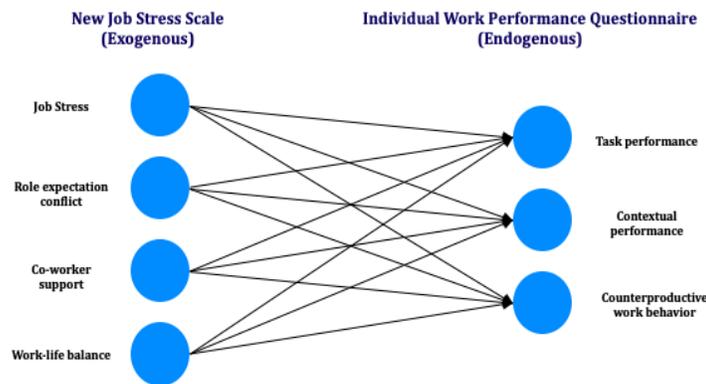


Figure 2. Relationship between job stress and job performance model

4. Data Collection

4.1 Data Processing using PLS-SEM

The data processing is divided into two conditions of work including Work from Home and Work from the Office.

a. Work from Home condition

During Work from Home, the responses gathered are all valid and reliable. The final model is done after the first iteration of variable removal according to factor loading.

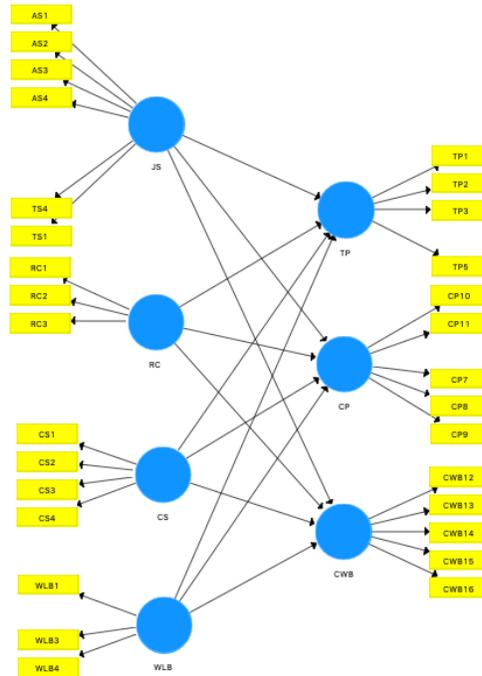


Figure 3. Path diagram of the work from home model after 1st iteration

The inner model of the Work from Home condition in Figure 3 had also evaluated with the value of t-statistics and p-value of each relationship are all taken into consideration to determine the hypothesis that should be accepted. The T-statistics value should be greater than 1.96 and the p-value should be lower than 0.05. Thus, if the value of t-statistics is greater than 1.96 and the p-value is lower than 0.05, the hypothesis should be accepted. As shown in Table 1, During Work from Home, hypotheses number 3, 4, 5, and 8 are accepted.

Table 1. Hypothesis evaluation of work from home condition using PLS-SEM

Hypothesis			T-statistics	P-value	Dec.
JS	TP	H1	1.44	0.18	×
	CP	H2	1.33	0.28	×
	CWB	H3	2.41	.007	√
RC	TP	H4	4.12	.000	√
	CP	H5	2.62	.008	√
	CWB	H6	0.37	0.77	×
CS	TP	H7	1.61	0.88	×
	CP	H8	2.96	.002	√
	CWB	H9	0.08	0.80	×
WLB	TP	H10	1.78	0.08	×
	CP	H11	0.41	0.68	×
	CWB	H12	0.78	0.53	×

b. Work from Office condition

During Work from Office, the responses gathered are all valid and reliable. The final model is done after the first iteration of variable removal according to factor loading.

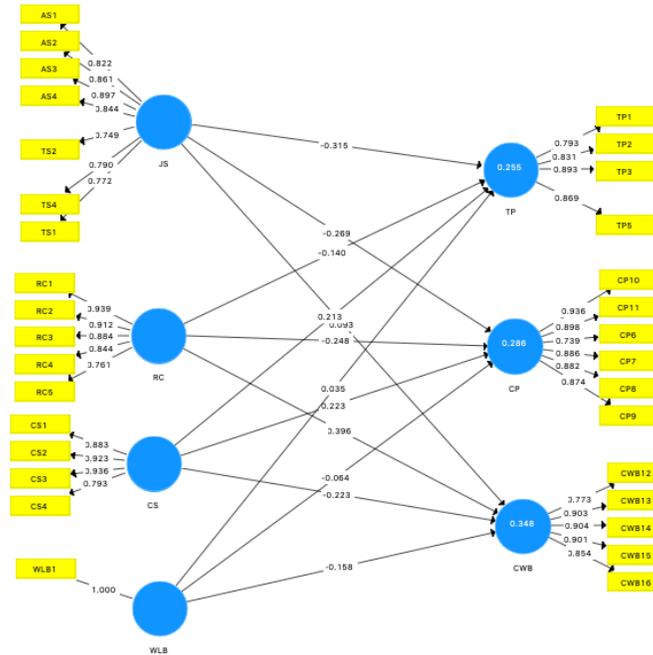


Figure 4. Path diagram of the work from office model after 1st iteration

The inner model of the Work from Home condition in Figure 4 had also evaluated with the value of t-statistics and p-value of each relationship are all taken into consideration to determine the hypothesis that should be accepted. The T-statistics value should be greater than 1.96 and the p-value should be lower than 0.05. Thus, if the value of t-statistics is greater than 1.96 and the p-value is lower than 0.05, the hypothesis should be accepted. As shown in Table 2, During Work from Home, hypothesis number 1, 2, 6, and 8 are accepted.

Table 2. Hypothesis evaluation of work from office condition using PLS-SEM

Hypothesis			T-statistics	P-value	Dec.
JS	TP	H1	2.08	0.04	√
	CP	H2	1.98	0.04	√
	CWB	H3	0.84	0.40	×
RC	TP	H4	0.76	0.44	×
	CP	H5	1.49	0.11	×
	CWB	H6	3.01	.006	√
CS	TP	H7	1.77	0.07	×
	CP	H8	2.03	0.04	√
	CWB	H9	1.75	0.06	×
WLB	TP	H10	0.32	0.76	×
	CP	H11	0.69	0.48	×
	CWB	H12	1.63	0.10	×

4.2 Data Comparing using Paired Sample T-test

During both conditions of Work from Home and Work from Office, the result of job stress and job performance varies, as shown by Table 3. The comparison between all results is conducted based on job stress, job performance, gender, age range, job sectors, and working hour. For the gender, age range, and job sectors, the result for job stress level and job performance level is also compared during Work from Home and Work from Office condition. The comparison is considered to be significant if the significant value is lower than 0.05. Thus, if the value is lower than 0.05, the

relationship is considered to be having a significant difference for the result of Work from Home and Work from Office condition.

Table 3. Paired sample T-test comparison with a significant difference

Factor	Mean	Std. Dev	Std. Error Mean	95% confidence interval of the difference		t	df	Sig. (2-tailed)
				Lower	Upper			
New Job Stress Scale								
JS	1.75	4.71	0.50	0.75	2.74	3.50	88	.001
Gender								
Female	5.11	5.94	1.16	2.71	7.51	4.38	25	.000
Job Sectors – New Job Stress Scale								
Education	59.66	11.75	4.80	47.32	72.00	12.42	5	.000
Logistics	57.33	0.57	0.33	55.89	58.76	172.0	2	.000
Telecommunication	50.0	7.90	1.76	46.29	53.70	28.27	19	.000

5. Results and Discussion

5.1 PLS-SEM Result and Hypotheses Analysis

The result of PLS-SEM that is used in hypotheses is divided into two conditions including Work from Home and Work from Office condition.

a. PLS-SEM Result and Hypotheses Analysis for Work from Home

The third hypothesis is accepted because, during Work from Home, the counterproductive work behavior is affected by job stress as the higher the job stress level, the higher the counterproductive work behavior will be. During Work from Home, workers are vulnerable to experience job stress relating to work-family or work-life conflict that brought them to also have a conflict with co-workers and even neglect their job (Greenbaum et al. 2014). The next hypothesis accepted is the fourth hypothesis because during Work from Home, when the role expectation conflict is high the task performance will decrease as they are confusing the workload they are given towards their role in the organization. The third one to accept is the fifth hypothesis because when the role expectation conflict is high, the task performance will be decreased as the worker is unable to manage their teammates to effectively do their work and the coordination is unstable. The last hypothesis accepted is the eighth hypothesis because the contextual performance needs co-worker support to increase the contextual performance

b. PLS-SEM Result and Hypotheses Analysis for Work from Office

The first hypothesis is accepted because when workers experience job stress, their task performance will be decreased. This happens because in the office workers tend to be supervised and pressured to do their work effectively while more experienced workers are preferable to work autonomously as a supervisor might initiate job stress and loss of job control (Mineyama et al. 2007). The second hypothesis is accepted because when job stress sub-scale level is high, their contextual performance will be disturbed. The next one to accept is the sixth hypothesis because when workers experience some sort of role confusion or role ambiguity, they tend to face a satisfaction, loyalty, trust, and performance decrement as there is a difference between their expectations and the workload that they are given (Soltani et al. 2013). The last hypothesis to accept is the eighth hypothesis because workers need the power of co-worker support to gain the final verdict for the working process.

5.2 Paired Sample T-test Result Analysis

The significant result of the paired sample t-test is the job stress sub-scale which has a value of .001 which is lower than 0.05 the accepted significance level of the paired sample t-test. Thus, during Work from Home, workers experience more job stress compared to Work from Office. For gender comparison, female workers have a significant difference in job stress level during Work from Home compared to Work from Office condition. Therefore, it is more likely for female workers to experience job stress during Work from Home conditions. According to the job sectors, workers in the education, logistics, and telecommunication sectors have a significant difference of job stress level with higher job stress during Work from Home compared to Work from Office condition.

5.3 Strategy Formulation using Importance Performance Analysis (IPA)

The Importance Performance Analysis is used to measure the complaints and insights gathered from the level of job stress that has been assessed using PLS-SEM, complaints gathered from a questionnaire, and conducting interviews with experts. The factors gathered from these methods are all formulated into one questionnaire and the result is measured and evaluated then made into a scatter plot. Thus, the strategy can be formulated through the final plot.

a. Attributes Gathering

The result of both PLS-SEM and Paired Sample T-test has indicated a significant difference in job stress level with a higher level during Work from Home. The higher result of job stress during Work from Home indicates that workers experience higher job stress during Work from Home compared to Work from Office. A high level of job stress should be maintained with counseling provision. Due to the pandemic that is currently happening, this has brought points of view that online counseling is strictly needed. The next attributes are coming from the complaints gathered from the first questionnaire. The complaints with a higher score are uncertain working hours and weak coordination. The questionnaire formulation from job stress level and Work from Home complaints are brought into the interview with experts. There are two experts interviewed for validating the strategy of Work from Home. After the expert interview, there are 10 attributes gathered including The certainty of the working hour, the certainty of break time, the distribution of workload, internet funding for workers, healthcare funding, online counseling, logbook availability, information flow, coordination flow, and entertainment for workers.

b. Quadrant Placement

In Figure 5, the first quadrant is the one located on the upper left of the quadrant. The first quadrant is where the priority is placed or the attributes that should be improved because their importance is high while their performance is low. In this model, the attributes that are located in the first quadrant are the certainty of the working hour, internet funding for workers, and online counseling.

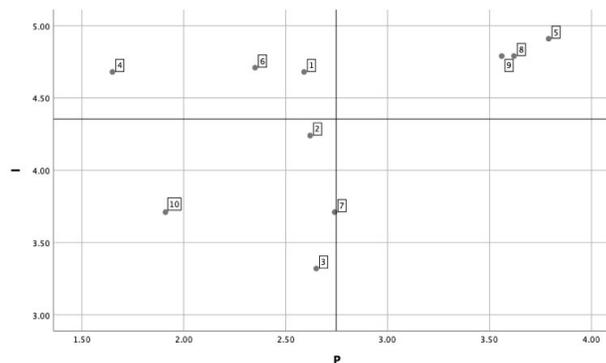


Figure 5. Quadrant placement of attributes

6. Conclusion

During Work from Home condition, sub-scales from the New Job Stress Scale including Job Stress, Role Expectation Conflict, and Co-worker support have a significant impact on sub-scales from Individual Work Performance Questionnaire (IWPQ). The Job Stress sub-scale has a significant impact on Counterproductive Work Behavior, the Role Expectation Conflict has a significant impact on Task Performance and Contextual Performance and the sub-scale Co-worker Support has a significant impact on Contextual Performance. Sub-scales from the New Job Stress Scale also have a significant impact on sub-scales from Individual Work Performance Questionnaire (IWPQ). The Job Stress sub-scale has a significant impact on both Task and Contextual performance, the sub-scale role Expectation Conflict has a significant impact on Counterproductive Work Behavior and the sub-scale Co-worker Support has a significant impact on Contextual Performance. Based on the paired sample t-test result, female workers have a higher significant difference in job stress level during Work from Home and Work from Office condition. Thus, female workers are more likely to experience job stress during Work from Home compared to male workers. In terms of the job sectors of the workers, workers in education, logistics, and telecommunication have higher job stress levels during Work from Home conditions.

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