Perceived Work Stress on the Performance of the Hospital Nurses During Covid-19 Pandemic: Is Intrinsic Motivation a Moderator Variable

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ABSTRACT

The nursing profession is known as the backbone of the health sector. They are required to provide optimal service and are expected to get no complaints from the patients. That demand often makes nurses feel stress (perceived work stress) on their duty, therefore will affect their performance. Nurses' perceived work stress was getting higher when Covid-19 hit the world. Increased workload, a chaotic work environment, and a lack of nurses cause work stress and can negatively affect the performance of nurses. This study uses quantitative methods to examine and analyze the effect of perceived work stress on the performance of nurses with intrinsic motivation as a moderator variable. This research was conducted by distributing questionnaires to a number of nurses at 'RS-X' Hospital in East Jakarta, Indonesia. Hypothesis testing is done by regression analysis using SPSS 25. The results showed that perceived work stress had a negative effect on nurse performance. The addition of the intrinsic motivation variable in the model increases the R-square value, but this variable does not moderate (weaken or strengthen) the effect of perceived work stress on nurse performance.

Keywords: Covid-19; Perceived work stress; Job performance; intrinsic motivation; Regression analysis.

INTRODUCTION

The resilience of the health sector has been in the global spotlight since the Covid-19 virus hit the world in 2019. Since then, the health sector has had to adapt to the pandemic. Each government in the world pursued various strategies in handling the Covid-19 pandemic. They

tried to control the spread of the Corona Virus and get at the exposed patients. They also focused on increasing the number of hospitals serving the Covid-19 patients and the number of medical personnel.

In Indonesia, according to the DKI Governor's Decree No. 987 on September 28, 2020, regarding a referral hospital for handling Covid-19 disease, it was appointed 87 hospitals serving Covid-19 patients with a 30 percent increase in medical personnel, including the nurses [1]. One of the referral hospitals in the East Jakarta area is RS-X Hospital.

An un-proportional increase in the number of nurses compared to the surge of Covid-19 patients has overwhelmed the nurses. They were forced into work situations they never had before and to be alert and responsive to provide nursing care to the patients who come and go with high frequency. They also have had to wear personal protective equipment that makes them uncomfortable, work longer than usual, and be ready and sincere if exposed to the virus [2]. The demands and an unfavorable work environment due to the pandemic have created negative feelings for nurses. They became exhausted and easy to get angry due to increasing the workload. However, they will also feel guilty if they are indifferent and ignore patients who need their service. The risks faced by the nurses can lead to work stress (perceived work stress). Perceived stress is the perception that he is under stress at a certain point or over a certain period [3]. If experienced continuously, it can cause stress and decrease work performance [4]. Perceived work stress will harm the nurse's performance. However, if nurses have intrinsic motivation, they are expected to produce better nurse performance. Intrinsic motivation is drive, persistence, and the effort expended by a person to achieve goals with independence in work.

This study aims to examine the negative effect of perceived work stress on nurse job performance and test if intrinsic motivation moderates those effects.

THE LITERATURE REVIEW

Perceived Work Stress
One of the triggers of stress of the person is excessive demands. Research by the National Institute of Occupational Health and Safety (NIOHS) conducted since 1996 states that the highest contributor to perceived stress is perceived work stress. Job stress is a reaction that arises as a result of job demands. Fahmi [5] argue that work stress results in pressure, burden, conflict, fatigue, tension, panic, and moodiness due to the loss of work power. Such conditions create an imbalance between physical and psychological.

According to Cohen et al. [6], there are three factors or dimensions that cause employees to be unable to meet job demands, namely: a) unpredictable, a condition where employees are unable to manage work demands; b) uncontrollable, a condition where employees are not fully able to control themselves over the demands of work; c) overloaded, a condition where the burdens and demands received by employees are too many and difficult to be controlled.

Job Performance
Job performance is a person's success in doing his job [7]. Sharma [8] defines job performance as the result of work achieved by a person or group of people in the organization by their respective authorities and responsibilities to achieve organizational goals without violating the

law and by ethics and morals. Therefore, the organization will always manage its employees as well as possible and create safe and comfortable organizational conditions so that their employees can provide good job performance.

According to Leblanc [9], benefit of job performance include: a) performance improvement, in the form of activities to improve employee performance; b) placement decisions, which assist in carrying out promotions, transfers, and demotions; c) improving employee performance; d) as employee training and development; e) as feedback on human resource development. The good or bad of the job performance of the organization explains how well the role of its human resources. Therefore, the job performance of hospital management can be determined, among others, by the job performance of the nurses, or nurse performance.

Intrinsic Motivation
Motivation is an impulse that arises from internal and external encouragement so that a person wishes to change their behavior or activities better than the previous one. The existence of motivation will: a) encourage people to fulfill their needs; b) determine the direction to be achieved; c) determine the action to be taken [10]. Motivation will affect the strength of the activity. Motivation is the driving force for someone to do an activity. According to Makalisang [11], there are three functions of motivation: a) encouraging humans to act as a mover or motor that releases energy, b) determining the direction of action towards the goal, c) selecting actions determining the actions that are in harmony to achieve the goal by setting aside actions that are not useful. To achieve his needs, a person will try to motivate himself through encouragement from within and outside of himself. There are two types of motivation: intrinsic and extrinsic [12]. Intrinsic motivation is an encouragement from the desire and ability to complete work as part of its skills, driven by independence in work. This motivation is an impulse that comes from within oneself.

The concept of intrinsic motivation is the motivation of workers who work well driven by subjective assessments of rewards or feelings of happiness obtained from good job performance in the past. In other words, job satisfaction will motivate workers to behave and act well, as explained by Pan, 2005 in [13]. While extrinsic motivation is a motivation that comes from outside that determines a person's behavior in the form of a condition that requires someone to do so [14]. If the company provides inadequate working conditions, wages, benefits, and safety, the organization will have difficulty attracting good employees, which can increase turnover and absenteeism of workers [15].

RESEARCH METHODS
Research Framework and Hypothesis
This study uses a quantitative approach to examine the effect of perceived work stress as an independent variable on nurse performance as a dependent variable. Besides, Intrinsic motivation is used as a moderating variable to test whether it plays a role in strengthening or weakening the influence. Figure 1 explains the research framework.
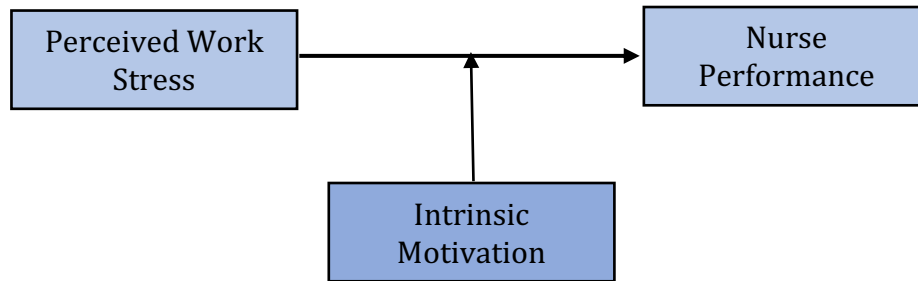
Figure 1: Research Framework
Source: Design by researcher

The hypothesis:
- o H_1: Perceived work stress has a negative effect on nurse performance
- o H_2: Intrinsic motivation moderating the effect of perceived work stress on nurse performance

The data used in this study are primary data obtained by distributing questionnaires to nurses at RS-X Hospital using 'google forms.' The population of nurses in the hospital amounted to 132 nurses. The respondent's criteria are nurses who are in charge of serving Covid-19 patients. The validity and reliability are using the Pearson Correlation test and Alpha Cronbach statistical test, respectively [16].

Data Analysis
Data analysis was conducted using the Classical Assumption and Hypothesis test. The Classical Assumption test consists of a Multicollinearity test, Heteroscedasticity test, Normality test, and Linearity test [17].

H_1 hypothesis test uses Simple Regression analysis, while the H_2 hypothesis uses the interaction test or Moderated Regression Analysis (MRA) to check whether the moderating variable can strengthen or weaken the effect of the independent variable on the dependent variable. The steps for testing the moderating variable are as follows:
- o   Test of Regression Equation-1

Is the test to see the effect of the independent variable X (perceived work stress) on the dependent variable Y (nurse performance):
$Y = a + b_1.X$
- o   Test of Regression Equation-2

Is the test to see the effect of the independent variable X (perceived work stress) and Z (intrinsic motivation) on the dependent variable Y (nurse performance):
$Y = a + b_1.X + b_2.Z$
- o   Test of Regression Equation-3

Is the test to see the effect by adding an interaction variable, namely the multiplication between variable X (perceived work stress) and variable Z (intrinsic motivation):
$Y = a + b_1.X1 + b_2.Z + b_3.X.Z$

RESULTS AND ANALYSIS

Table 1. explains the characteristics of respondents based on gender and employment status. Most respondents were female (89.4%) with permanent employee status (77.6%).

Table 1. Respondent Characteristics

Gender	No.	%	Employment Status	No.	%
Male	9	10.6	Permanent	66	77.6
Female	76	89.4	Contract	19	22.4

Source: Field data, 2021

Results of Instrument Test

Table 2, Table 3, and Table 4. explain the results of the validity test and the means for each statement for the variable of perceived work stress, nurse performance, and intrinsic motivation variables.

The data of the instrument validity test explain that three items of the statements of the perceived work stress variable and one item of the statements of the nurse performance are not valid, while all statements of intrinsic motivation variable are valid.

Table 2. The Results of the Validity Test and the Means of the Statements of the Perceived Work Stress Variable

Statement	Pearson Correlation	Sig. (2-tailed)	Valid/ Not Valid	Mean Value	Category
PWS1	.550**	.000	Valid	2.91	Fair
PWS2	.544**	.000	Valid	2.47	Low
PWS3	.609**	.000	Valid	2.55	Low
PWS4	.258*	.017	Valid	2.96	Fair
PWS5	.177	.106	Not Valid	-	-
PWS6	.457**	.000	Valid	2.41	Low
PWS7	-.001	.996	Not Valid	-	-
PWS8	.179	.102	Not Valid	-	-
PWS9	.501**	.000	Valid	2.48	Low
PWS10	.603**	.000	Valid	2.45	Low

Source: Field data – Own calculation, 2021

Table 3. The Results of the Validity Test and the Means of the Statements of the Nurse Performance Variable

Statement	Pearson Correlation	Sig. (2-tailed)	Valid/ Not Valid	Mean Value	Category
KP1	.584**	.000	Valid	3.22	Fair
KP2	.627**	.000	Valid	3.78	High
KP3	.361**	.001	Valid	4.56	Very High
KP4	.497**	.000	Valid	4.55	Very High
KP5	.583**	.000	Valid	2.87	Fair
KP6	.367**	.001	Valid	4.51	Very High
KP7	.608**	.000	Valid	2.87	Fair
KP8	.205	.060	Not Valid	-	-
KP9	.580**	.000	Valid	3.46	High

Source: Field data – Own calculation, 2021

Table 4. The Results of the Validity Test and the Means of the Statements of the Intrinsic Motivation Variable

Statement	Pearson Correlation	Sig. (2-tailed)	Valid/ Not Valid	Mean Value	Category
MI1	.303**	.005	Valid	2.75	Fair
MI2	.554**	.000	Valid	3.72	High
MI3	.671**	.000	Valid	4.60	Very High
MI4	.802**	.000	Valid	4.34	Very High
MI5	.694**	.000	Valid	4.51	Very High
MI6	.714**	.000	Valid	4.18	High
MI7	.658**	.000	Valid	4.19	High
MI8	.658**	.000	Valid	4.05	High
MI9	.739**	.000	Valid	4.46	Very High
MI10	.729**	.000	Valid	4.51	Very High
MI11	.563**	.000	Valid	4.14	High

Source: Field data – Own calculation, 2021

Table 5. shows the reliability test of all variables using Cronbach's Alpha analysis proved reliable.

Table 5. Results of the Reliability Test

Variable	Cronbach's Alpha	Result
Perceived Work Stress	0.714	Reliable
Nurse Performance	0.652	Reliable
Intrinsic Motivation	0.820	Reliable

Source: Field data – Own calculation, 2021

Table 6 and Table 7 explain the results of the classical assumption test, namely the multicollinearity test and heteroscedasticity test. The results show all variables are absent of multicollinearity. The variables also absent of heteroscedasticity shown by the significance test greater than 0.05.

Table 6. Results of the Multicollinearity test

Variable	Tolerance	VIF	Result
Perceived Work Stress	1.000	1.000	Absent of multicollinearity
Nurse Performance	1.000	1.000	Absent of multicollinearity
Intrinsic Motivation	1.000	1.000	Absent of multicollinearity

Source: Field data – Own calculation, 2021

Table 7. Results of the Heteroscedasticity

Variable	Sig	Result
Perceived Work Stress	0.947	Absent of heteroscedasticity
Nurse Performance	0.946	Absent of heteroscedasticity
Intrinsic Motivation	0.258	Absent of heteroscedasticity

Source: Field data – Own calculation, 2021

Table 8. shows the normality test by using the One-Sample Kolmogorov-Smirnov test which obtained the value of Asymp. Sig. (2-tailed) of 0.200 greater than 0.05. It explains that the data is normally distributed.

Table 8. Results of One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		85
Normal Parameters [a,b]	Mean	0.0000000
	Std. Deviation	4.43883843
Most Extreme Differences	Absolute	0.049
	Positive	0.049
	Negative	-0.047
Test Statistic		0.049
Asymp. Sig. (2-tailed)		.200[c,d]

Source: Field data – Own calculation, 2021

Hypothesis Test

Result of the regression equation-1 test obtained a beta value of -0.48 and an R-square value of 17.7% with a significance level of 0.00 (Table 9). It explains that perceived work stress has a negative effect on nurse performance significantly. High perceived work stress can reduce nurse performance and vice versa.

Table 9. Results of the Regression Equation-1 Test

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.420[a]	.177	.167	4.465
a. Predictors: (Constant), TOTAL_PWS				

Coefficients [a]						
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	38.573	2.129		18.121	.000
	TOTAL_PWS	-.480	.114	-.420	-4.221	.000
a. Dependent Variable: TOTAL_KP						

Source: Field data – Own calculation, 2021

The regression equation-2 test produces an R-square value of 18.2% (Table 10), increase 0.5% compared to the result of a regression equation-1 test. Those explain that the intrinsic motivation variable can explain the variation of the nurse performance variable, but the effect is not significant (Sig. > 0.05).

Table 10. Results of the Regression Equation-2 Test

Model Summary				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.426[a]	.182	.162	4.479
a. Predictors: (Constant), TOTAL_MI, TOTAL_PWS				

Coefficients [a]						
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	36.015	4.220		8.534	.000
	TOTAL_PWS	-.480	.114	-.420	-4.206	.000
	TOTAL_MI	.056	.080	.070	.703	.484
a. Dependent Variable: TOTAL_KP						

Source: Field data – Own calculation, 2021

Results of the regression equation-3 test yielded the same R-Square value as the regression equation-2 test, 18.2%, with a significance value of 0.848 (Table 11). It indicates intrinsic motivation as a moderator variable does not have a role in strengthening or weakening the effect of perceived work stress on nurse performance.

Table 11. Results of the Regression Equation-3 Test

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.427a	.182	.152	4.506
a. Predictors: (Constant), Interact, TOTAL_MI, TOTAL_PWS.				

Coefficients a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	39.101	16.624		2.352	.021
TOTAL_PWS	-.645	.870	-.565	-.741	.461
TOTAL_MI	-.011	.360	-.014	-.031	.975
Interact	.004	.019	.169	.192	.848
a. Dependent Variable: TOTAL_KP					

Source: Field data – Own calculation, 2021

DISCUSSION

Perceived work stress has a negative effect on nurse performance with a correlation coefficient value of -0.480 and a significance level of 0.000. This is in line with research conducted by Labrague [4]. However, the study has different signs that the low perceived work stress results in an increase in nurse performance, as explained by the survey that during the pandemic Covid-19 the nurses were able to control the situation and were confident in handling the patients.

The low assessment results of perceived work stress from hospital nurses can be caused by an inaccurate questionnaire filling period, namely October - December 2021. The respondents may be affected by the situation in which the Covid-19 handling case had improved and the nurses have been able to adjust to the pandemic conditions.

Those with high intrinsic motivation make themselves enjoy their duties and work innovatively without the need to be supervised [18]. On the other hand, low of work motivation happens due to expectations that are not in line with reality [19]. In this study, the intrinsic motivation variable proved to explain variations in nurse performance as indicated by an increase in the R-Square value. However, this variable is not significant as a moderator variable to weaken or strengthen the negative effect of perceived work stress on nurse performance. This is in line with the test results that intrinsic motivation does not significantly affect nurse performance. Based on the results of the questionnaire, it is known that the intrinsic motivation of the nurse that treated Covid-19 patients is high and very high. Therefore, there could be other factors that affect the job performance of the nurses [20].

CONCLUSION

The pandemic Covid-19 that hit the world including Indonesia, demands an increase in the performance of nurses, especially those who treat Covid-19 patients. Stress due to the work could reduce nurse performance. The decreased of work performance due to an increase in

stress can be strengthened or weakened by motivation from within the nurse (intrinsic motivation).

It was proven that there was a negative effect of perceived work stress on the performance of nurses working in hospital dealing with Covid-19 patients. Qualitative data obtained from the questionnaires shows that nurses' perceived work stress was low and their performance was high. This condition is thought due to the inaccurate questionnaire collection period, in which the study was conducted when the handling of the Covid-19 pandemic was under control and the trend of infected patients began to decline.

In this study, intrinsic motivation was not proven as a moderator variable that strengthened or weakened the negative effect of perceived work stress on nurse performance. This is also in line with the condition that nurse respondents at the time of the study had low work stress, with high motivation. Therefore, it is advisable to test the effect of other moderating variables, such as age, gender, employment status, organizational support, and other variables in further research.

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