TWIST

The Influence of Work Stress, Workload, and Job Satisfaction on the Performance of Hospital Nurses in Makassar, Indonesia

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Abstract

This study examines the relationship between job stress, workload, and perceived job satisfaction on nurse performance. The study participants consisted of 120 hospital nurses sampled from Ibnu Sina Hospital, Makassar, Indonesia. The results of the regression analysis showed that job stress, high perceived workload, and job satisfaction were significantly related to the performance of nurses at Ibnu Sina Hospital, Makassar. Indonesia. The implications of the findings are the components of job stress, workload, and job satisfaction indicate the need for the application of organizational resources, psychological support, and interprofessional collaboration in health services at Ibnu Sina Hospital, Makassar. Indonesia.

INTRODUCTION

Employee workload and task complexity are a function of organizational structure. Even within the same organization, employee task requirements vary because employees of the same rank may have different tasks. Differences in workload may be largely influenced by educational qualifications, areas of specialization, or positions within the organization. In most organizations, employee workload variability may be largely influenced by the department in which they work. However, even within the same department, there is no guarantee that employee workloads will be balanced. Employees' perceptions of workload balance or imbalance because of perceived differences between their workload and the workload of other members of the organization can lead to dissatisfaction (Sravani, 2018).

Organizational systems consist of many interdependent and interrelated subsystems that work together to complement each other to facilitate the achievement of organizational goals in all categories, large and small. Employees in every organization have varying levels of workload that they face daily. If for any reason the workload changes, the change alters the stress levels of employees as well as their perceptions of fairness in the workload balance, especially if the change is positive. However, whether positive, as in the case of increased workload; or negative, as in the case of reduced workload; it has implications on employee job satisfaction and ultimately, job performance (Ali and Farooqi, 2014).

While positive changes in workload may create feelings of dissatisfaction among the employees concerned, negative changes may reduce the capacity of employees to exploit their capabilities, leading to possible inefficiencies on the part of the employees. While there is some existing research on the impact of workload balance on organizational outcomes, no existing research has investigated employee perceptions of workload balance or examined employee perceptions of workload balance because of comparing their workload with the workload of their peers in the organization. Nurses, who are the core of the healthcare system, often face various challenges (Grochowska. et al., 2022; Khammar, et al., 2017). The decline in nurse performance can be caused by the fact that nurses' work often involves significant teamwork and interpersonal interactions, both with coworkers and with patients and their families (Campbell,

et al., 2020; Kourkouta, et al., 2014). The decline in nurse performance can be caused by the fact that nurses' work often involves significant teamwork and interpersonal interactions, both with coworkers and with patients and their families (Campbell, et al., 2020; Kourkouta, et al., 2014). This increase is due to the influx of patients seeking medical care in hospitals, as well as the large number of patients being treated in other departments. In response, nursing staff have extended their shifts and redoubled their efforts to provide optimal patient care, which has contributed to a significant increase in their workload (Lucchini et al., 2020).

The healthcare system is one of the most important and vital industries, covering various sectors in different countries. One of the most important parts of this industry is the hospital, which usually plays a vital role in human health as the third level of the healthcare industry. Hospitals aim to offer safe and effective medical services to patients. However, sometimes, some hospitals become the source of damage, and despite advances in technology and care, medical errors cause complications and deaths and impose a lot of costs on patients and society. Due to this fact, in today's world, ensuring patient safety and stopping medical errors and adverse events in hospital centers is a global problem (Cohen et al., 2017) Nursing is one of the most stressful professions due to emotional patient demands, long working hours, and interprofessional and interpersonal conflicts. In recent years, new healthcare technologies, budget cuts, and changes in the healthcare environment have continued to increase personal and work stress among nurses (Jennings, 2007). Thus, nurses consistently report higher levels of stress compared to other health professionals (Williams & Smith, 2013). This impacts job satisfaction while creating feelings of inadequacy that can lead to burnout and compromise nurse well-being. These effects have implications for productivity and performance (Najimi, Goudarzi, & Sharifirad, 2012).

In the literature, research has largely focused on the impact of work stress in nursing settings (Khamisa, Oldenburg, Peltzer, & Ilic, 2015; Khamisa, Peltzer, & Oldenburg, 2013; Kumari & De Alwis, 2015; Makola, Mashegoane, & Debusho, 2015; Sekol & Kim, 2014), while the impact of personal stress in nursing has been less explored. Evidence suggests that work stress contributes to higher levels of burnout among nurses and is associated with lower job satisfaction (Graham, Davies, Woodend, Simpson, & Mantha, 2011). Prolonged work stress negatively impacts physical and mental health outcomes among nurses (Idris, 2011). Globally, many businesses are facing tremendous challenges as organizations struggle to maintain competitiveness in an ever-changing environment. The high-quality services that organizations offer to clients are no longer enough; consistency in providing such facilities has become a determinant. Even then, employees still have to work in a highly stressful organizational environment where they face multiple job demands (workload, emotional demands, cognitive demands) (Landy & Conte, 2016). These stressful working conditions affect employees' attitudes and well-being resulting in symptoms of tension and burnout (Ganster & Rosen, 2013; Thorsteinsson, Brown, & Richards, 2014).

Ibnu Sina Hospital, Makassar is one of the hospitals that has the most patient referrals from several areas in South Sulawesi because of its complete medical equipment and nurses who provide excellent services. On the other hand, Ibnu Sina Hospital, Makassar has had several problems related to the workload received by nurses so that nurses feel stressed which affects the level of job satisfaction and nurse performance. This was expressed directly by several nurses at Ibnu Sina Hospital Makassar. Indonesia (February 2024). Therefore, the main objective of this study was to investigate the relationship between nurses' perceptions of work stress, workload, and job satisfaction on nurse performance.
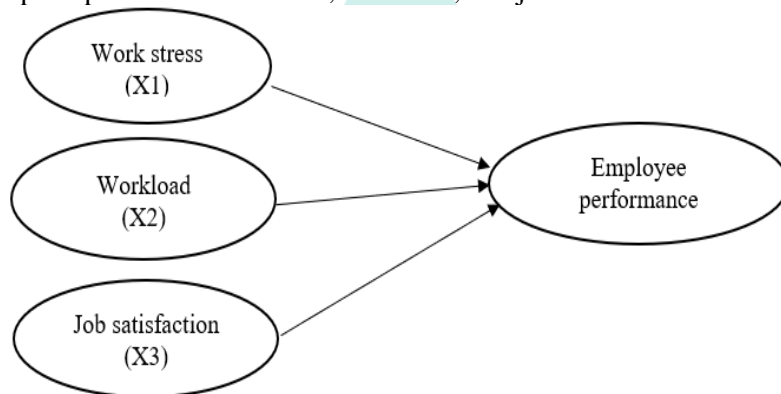

Fig. 1 Conceptual framework

MATERIALS AND METHODS

Job Stress
Job stress is an interaction between the work environment and the individual, which changes a person's psychological and physiological conditions and interferes with their ability to function normally (Babapour, Gahassab-Mozaffari, & Fathnezhad-azemi, 2022).

Workload
High workload has been recognized as one of the main causes of burnout (McManus, Keeling, & Paice, 2004; Pastores et al., 2019; Watson et al., 2019), Workload is a physical and mental burden, and both are always related to each other and when someone does a certain task, the two cannot be completely separated (Lean et al., 2012). Workload has long been considered an important factor and influences individual performance in complex systems. Workload is divided into two

groups: physical workload and mental workload (Hwang et al., 2008). Employee workload is one of the determining factors of employee productivity and turnover (Rajan, 2018) because if the employee workload is below the standard workload, it will cause laziness and provide opportunities for employees to be lazy and engage in unproductive activities such as group politics, which will have an impact on performance.

Job Satisfaction
Job satisfaction refers to feelings that arise from workers' perceptions of the extent to which their work meets their needs (Kong et al., 2018). Employee job satisfaction is important because it affects turnover, organizational commitment, and individual performance (Dorta Afonso et al., 2021; Kong et al., 2018; Zopiatis et al., 2014). Job satisfaction, a positive view of work resulting from the alignment of role-related tasks with personal values and expectations, has a significant impact on employee well-being. In the specific context of healthcare, a person-centered care approach that prioritizes the person rather than the disease has been positively associated with professional job satisfaction and a better relationship climate (Guarnieri et al., 2020; Cooper et al., 2018).

Employee Performance
According to Sanuddin & Widjojo (in Kirana, 2020), performance is the main measure of an employee's success in carrying out their work. From this opinion, we can conclude that performance is an employee's ability to be responsible for their work. Performance is the work result achieved by an employee in accordance with the work given to him/her within a certain time. Performance is also a manifestation of work carried out by employees which is usually used as a basis for assessing employees or organizations. Good performance is a major step toward achieving an organizational goal.

METHOD
We calculated the sample size based on the formula of Hair et al., (2019) which states the number of indicators multiplied by 5-10. So, the total sample in this study was 120 respondents. A simple random sampling technique was used to recruit study participants based on the inclusion criteria outlined. We recruited participants from each study facility using a quota sampling technique to ensure adequate representation of the study population. Nurse job satisfaction was examined using the Job Satisfaction Scale (Noblet & Rodwell, 2009). This tool has two subscales consisting of 10 items: internal satisfaction (5 items) and external satisfaction (5 items). To assess work stress in nursing, we used the Job Stress Scale (Netemeyer, Maxham, & Pulling, 2005). This scale has two subscales: job requirements (3 items) and inadequate support (3 items). Workload was measured using the NASA Task Load Index (NASA-TLX) with six indicators including mental workload, physical workload, temporal workload, performance, effort, and frustration, Abbasi et al. (2022) developed a questionnaire to evaluate the behavioral aspects of job performance. This questionnaire assesses individual job performance based on behavior, not outcomes. The IJPQ measures four dimensions of individual job performance, including task performance (TP), adaptive performance (AP), counterproductive behavior (CWB), and contextual performance (CP). The distribution and collection of complete questionnaires took approximately 15 working days in 2024.

RESULTS

Description of Research Objects
The data for this study were obtained using a questionnaire that was distributed directly to 120 respondents in this case nurses at Ibnu Sina Hospital Makassar.

Table 1 Questionnaire Return Distribution

Explanation	Number
The questionnaire was distributed	120
Returned questionnaire	120

Based on the table, the total number of questionnaires distributed was 120 questionnaires with the number of questionnaires returned being 120, in other words, the percentage of returned questionnaires was 100%.

Respondent Characteristics
The respondents in this study were nurses at Ibnu Sina Hospital Makassar totaling 120 employees. The respondents' identities consisted of gender, education level, age, age, and length of service.

Respondent Characteristics Based on Gender
Based on the research data obtained from the distribution of questionnaires, the data on the respondents' gender can be seen in the table below:

Table 2 Respondents by gender

Gender	Number of people	Percentage
Men	46	38,34 %
Women	74	61,66%
Number	120	100%

Based on the data above, it can be seen that out of 120 nurses at Ibnu Sina Hospital Makassar, 74 nurses were male, or 38.34% of the total respondents, while 46 nurses were female, or around 61.66%. This finding is in accordance with similar findings, which show that nursing is a discipline dominated by women (Ansah Ofei & Paarima, 2021; Ofei & Paarima, 2022; Ofei, Paarima, & Barnes, 2020; Paarima et al., 2021, 2022).

Respondent Characteristics Based on Education Level

Table 3 Respondents by education level

Education	Number of People	Percentage
Diploma	22	18,33%
S1	96	80 %
S2	2	1.67 %
Total	120	100%

Based on the table, it can be seen that out of 120 respondents who have a Diploma education level, there are 22 respondents, or around 18.33%. Nurses who have a bachelor's degree education level are 96 people or around 80%. While respondents who have a master's degree education level are 2 people or around 5.22% of the total number of respondents.

Respondent Characteristics Based on Age Based on research data obtained from distributing questionnaires, data on the type of Age/Age of respondents can be seen in the table below:

Table 4 Respondents by Age

Age	Number of People	Percentage
22 – 27 years old	59	49,17%
28 – 33 years old	31	25,83%
34 – 39 years old	18	15%
> 40 years old	12	10%
Total	120	100%

Based on the table above, it can be seen that out of 120 nurses at Ibnu Sina Hospital Makassar who have an age range of 22-27 years, there are 59 people or around 49.17%. Respondents who have an age range of 38-33 years are 31 people or around 25.83%, and those aged 34-39 years are 18 people or around 15%. While 10% of the number of nurses at Ibnu Sina Hospital Makassar are over 50 years old.

Respondent Characteristics Based on Work Period, based on the research data obtained from distributing the questionnaire, the data obtained on the gender of the respondents can be seen in the following table:

Table 5 Respondents Based on Work Period

Work period	Number of people	Percentage
1 – 11 months	10	8.33%
1 – 3 years	53	44.17%
3 – 5 years	45	37,5%
> 5 years	12	10%
Total	120	100%

Based on the table, it can be seen that out of 120 nurses at Ibnu Sina Hospital Makassar, 10 or around 8.33% have a work period of 1-11 months. Respondents who have a work period of 1-3 years are 53 or around 44.17%. Nurses who have a work period of 3-5 years are 45 or around 37.50%. Meanwhile, 10% of nurses at Ibnu Sina Hospital Makassar are 12 people.

Research Instrument Test Results
The variables used in this study are Job Stress (X1), Workload (X2), Job Satisfaction (X3), and Employee Performance (Y). These variables will be tested using descriptive statistics.

Table 6 Descriptive Statistical Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
Work Stress	120	1,00	3,60	2,0852	,51097
Workload	120	3,00	5,00	4,0887	,50969
Job satisfaction	120	2,00	5,00	3,9287	,65007
Employee performance	120	2,80	5,00	3,9670	,48697
Valid N (listwise)	120				

Data Instrument Test Results

Reliability testing is used to determine whether the measuring instrument has reliability in measuring a dimension. This measurement is carried out to measure reliability using the Cronbach Alpha (α) statistic. A variable is said to be reliable if the Cronbach Alpha value is > 0.60 (Hair et al., 2019).

Table 7 Reliability Test Results

Variable	*Cronbach Alpha (a)*	Standard	
Work Stress	0,837	0,60	Reliable
Workload	0,749	0,60	Reliable
Job satisfaction	0,776	0,60	Reliable
Employee performance	0,748	0,60	Reliable

Hypothesis Test Results

Table 8 Regression Equation Model

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1,865	,318		5,865	,000
Work Stress	-,151	,068	-,158	-2,210	,029
Workload	,238	,078	,249	3,036	,003
Job satisfaction	,368	,061	,491	5,997	,000

a. Dependent Variable: Employee performance

Coefficient of Determination Test (R2)

The coefficient of determination is used to measure how large a percentage of the overall influence of the independent variable is on the dependent variable.

Table 9 Results of the Determination Coefficient Test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,660[a]	,435	,420	,37082

a. Predictors: (Constant), Job satisfaction, Work stress, Workload
b. Dependent Variable: Employee performance

The results of data processing show that the value obtained by the Adjusted R-Square value is 0.435, which means that 43.5% of the Employee Performance variable (Y) is influenced by the variables Work Stress (X1), Workload (X2), and Job Satisfaction (X3). While the rest (100-43.5%) is 56.5% which is influenced by other variables outside the equation.

T Statistic Test

A partial test is used to see the influence of each independent variable on the dependent variable. Testing is done using the t-test, namely by looking at the significance value of the calculated t. If the significance value of the calculated t is <0.05, it can be said that the independent variable has an influence on the dependent variable.

Table 10 T-Test Results

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1,865	,318		5,865	,000
Work Stress	-,151	,068	-,158	-2,210	,029
Workload	,238	,078	,249	3,036	,003
Job satisfaction	,368	,061	,491	5,997	,000

a. Dependent Variable: Employee performance

F Statistic Test

Simultaneous Test is used to determine whether all independent variables have the same effect on the independent variable. The test is carried out using the F distribution test, namely by comparing the critical F value (F table) with the calculated F value in the ANOVA table. The F test is useful for testing whether there is an influence of the combined influence of the variables Work Stress (X1), Workload (X2), and Job Satisfaction (X3) on Employee Performance (Y).

The method we use as a reference or guideline for conducting hypothesis testing in the F test is by comparing the significant value (sig.) Or the probability value of the ANOVA output results If the sig. Value <0.005, then the hypothesis is accepted if the significant value> 0.005 then the hypothesis is rejected.

Table 11 F Test Results

ANOVA[a]					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	11,771	3	3,924	28,536	,000[b]
Residual	15,263	111	,138		
Total	27,034	114			

a. Dependent Variable: Employee performance

b. Predictors: (Constant), Workload, Work stress, Job satisfaction

DISCUSSION

The Effect of Work Stress on Employee Performance

Our study found high levels of work stress among nurses. This finding suggests that perceptions of organizational politics increase work stress among nurses. Increased work stress can lead to injuries, poor health, decreased nurse well-being, decreased quality, and decreased efficiency. Stressed staff are less creative and easily provoked, which affects their satisfaction and productivity. Therefore, it is important for hospital managers to pay more attention to reducing the level of organizational politics through open/shared governance and shared decision-making processes. This finding is consistent with a previous study by Labrague et al. (2016), which reported that staff became doubtful that they would be recognized, and their efforts were appreciated because they were excluded from decision-making.

Active participation in decision-making in an environment perceived as political can reduce the level of perception and motivate staff. This finding is in line with Paarima et al. (2022) and Asiri, Rohrer, Al-Surimi, Da'ar, & Ahmed, (2016), who acknowledged that effective decision-making involving nurses increases commitment and productivity, reduces work stress, and increases satisfaction.

The Effect of Workload on Employee Performance

Other studies also show a relationship between high workload and decreased nurses' work performance, which can be caused by excessive work stress, demands, physical conditions of the workplace, and relationship problems between nurses (Rusdi et al., 2020; Yosiana et al., 2020). Due to the increase in the parameters of support, evaluation, and environmental improvement, it can be concluded that increased COVID-19 anxiety and workload cause nurses to expect support from their organizational managers to cope with increased workload. As a result, their evaluation of the situation will improve, and they will be more in tune with the atmosphere of the environment because they expect their condition to be more supported by the organization. This finding is consistent with research conducted by Asamani et al. (2015) which also found that excessive workload can increase nurse performance.

The Influence of Job Satisfaction on Employee Performance

Nursing is a human-centered profession and instilling a sense of meaning in their work is considered a fundamental component of humanism. Nurses feel internally satisfied when the patients they care for receive the best care and recover from their illnesses. Meaningful work creates a positive work environment that benefits healthcare delivery, job performance, and patient outcomes (Pavlish, Hunt, & Carol Pavlish, 2012). Studies have shown that nurses who find meaning in their work experience higher job satisfaction, leading to increased motivation and quality of care delivery. Therefore, nurses need to reflect on how they find meaning and satisfaction in their work and make decisions that lead to more meaningful work. Employee job satisfaction is important because it affects employee turnover, organizational commitment, and individual performance (Dorta-Afonso et al., 2021; Kong et al., 2018; Zopiatis et al., 2014).

CONCLUSION

The study highlights the significant effects of work stress, workload, and job satisfaction on nurses' performance. High levels of work stress, often exacerbated by organizational politics, can negatively impact nurse well-being, creativity, and overall productivity. To mitigate these effects, it is essential for hospital managers to foster an inclusive decision-making environment, as this can enhance commitment and reduce stress. Similarly, an excessive workload can hinder nurse performance, especially in high-pressure situations like the COVID-19 pandemic, where organizational support becomes crucial. Lastly, job satisfaction, deeply rooted in the meaningfulness of work, plays a pivotal role in improving nurses' motivation, commitment, and care quality. Thus, addressing these factors holistically is key to enhancing nurse performance and patient care outcomes.

DECLARATION OF CONFLICT

The authors state that there were no financial conflicts of interest or personal relationships that could have affected the research presented in this paper.

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