

# Analyzing the Impact of Job Stress, Workload, and Job Satisfaction on Nurse Performance: A Path Analysis

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## ABSTRACT

**Background:** Good performance can help hospitals make profits and maintain the sustainability of their business, and vice versa, a decreased performance can certainly be detrimental to hospitals. Nurses are always required to provide good service even under high pressure, with a large number of patient visits and standard procedures that should not be missed. This study aims to analyze the effect of job stress, workload, and job satisfaction on the nurses' performance in the inpatient ward of dr. Sayidiman Magetan Hospital, East Java, Indonesia.

**Subjects and Method:** It was an observational analytical study with a cross-sectional approach using a path analysis model. The population in this study was all nurses in the inpatient ward of dr. Sayidiman Magetan Hospital, East Java, Indonesia. The sample in this study was nurses at dr. Sayidiman Magetan Hospital, East Java, Indonesia. The ratio between the number of subjects in a study and the number of independent variables in multivariate analysis is recommended to be 15 to 20 subjects per independent variable. Therefore, the total number of study subjects in this study was 200 people. The study used the simple random sampling technique. The variables in this study were dependent variables and independent variables. The dependent variables included performance, while the independent variables included job stress, workload, and job satisfaction.

**Results:** Nurses' performance in hospital inpatient ward improved with better job satisfaction ( $b = 0.19$ ;  $CI\ 95\% = 0.05$  to  $0.32$ ;  $p = 0.006$ ) and higher job stress ( $b = 0.13$ ;  $CI\ 95\% = -0.01$  to  $0.26$ ;  $p = 0.066$ ). Nurses' performance decreased with heavier workload ( $b = -0.16$ ;  $CI\ 95\% = -0.29$  to  $-0.03$ ;  $p = 0.017$ ). This path analysis model had a good model fit, which was indicated by the following model fit indicators:  $p = 0.294$ ;  $RMSEA = 0.034$ ;  $CFI = 0.98$ ;  $TLI = 0.92$ ;  $SRMR = 0.029$ .

**Conclusion:** Nurses' performance in the hospital inpatient ward improves with better job satisfaction and higher job stress. Nurses' performance decreases with heavier workloads. This path analysis model has good model suitability.

**Keywords:** job stress, job satisfaction, performance, workload

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## BACKGROUND

Good performance can help hospitals make profits and maintain the sustainability of their

business, and vice versa if performance declines can certainly be detrimental to hospitals. Health workers have an important

role to improve the quality of maximum health services to the community in order to be able to increase awareness, willingness and ability to live a healthy life so that they will realize a good degree of health (Hwang et al, 2022). Nurses are always required to provide good service even under high pressure with a large number of patient visits and standard procedures that should not be missed (Purimahua et al, 2020).

Nurses who are a valuable asset for hospitals sometimes face dilemmatic conditions. Every employee has personal problems; on the other hand, employees are required to provide excellent service in dealing with complaints of various kinds of patients (Kurniawan et al, 2021). Job stress is an aspect that must be considered by the hospital, especially concerning employee performance. Overall, hospitals should have good performance (Lee and Jung, 2015). The danger of stress is caused by physical, emotional, and mental exhaustion caused by prolonged involvement with emotionally demanding situations (Hardika, 2017).

An imbalance in the number of health-care workers and patients often leads to an increase in workload. In addition, working continuously and a poor work environment will have a negative impact on the job satisfaction of health workers (Kadir et al, 2017). The workload of health workers is the amount of work that must be completed by health workers within one year and at one healthcare facility (Li et al, 2017). Job satisfaction is an emotional state, either pleasant or unpleasant, felt by health workers regarding a certain job.

Job satisfaction reflects a person's satisfaction with their job. This arises through a positive attitude at work and everything encountered in the work environment (Rosyidawati et al, 2020). Based on the above background, the researcher considers it necessary to conduct a study on the effect of

job stress, workload, and job satisfaction on the performance of nurses in the inpatient ward of dr. Sayidiman Magetan Hospital, East Java, Indonesia.

## SUBJECTS AND METHOD

### 1. Study Design

This study was an analytical-observational study with a cross-sectional approach using a pathway analysis model.

### 2. Population and Sample

The population in this study was all nurses in the inpatient ward of dr. Sayidiman Magetan Hospital, East Java, Indonesia. The sample in this study was nurses at dr. Sayidiman Magetan Hospital, East Java, Indonesia. The ratio between the number of subjects in a study and the number of independent variables in multivariate analysis is recommended to be 15 to 20 subjects per independent variable. Therefore, the total number of study subjects in this study was 200 people. The study used the simple random sampling technique.

### 3. Research Variables

The dependent variable was work performance. The independent variables were job stress, workload, and job satisfaction.

### 4. Operational Definition

**Job Stress:** An adaptive response caused by individual differences that is a consequence of external actions, situations or events due to excessive physical and psychological demands on an individual (Elizar et al, 2020). Measured using a questionnaire with 5 questions.

**Workload:** Something that arises from the interaction between the demands of tasks, the work environment in which it is used, the skills, behaviors, and perceptions of the worker. Workload can also sometimes be defined operationally on various factors such as the demands of the task or the efforts made to perform the work (Kadir et al, 2017).

Measured using a questionnaire with 5 questions.

**Job Satisfaction:** A positive feeling perceived by a person about a job that is the result of an evaluation of its characteristics. An employee with a high level of job satisfaction has positive feelings about the job (Hakman et al, 2021). Measured using a questionnaire with 5 questions.

**Performance:** Actions taken by a nurse in an organization following their respective obligations and responsibilities that do not violate laws, rules, norms, and ethics, where good performance provides satisfaction to service users (Bazazan et al, 2019). Measured using a questionnaire with 10 questions.

## 5. Study Instrument

The study instrument used for the data collection was a questionnaire.

## 6. Data Analysis

Univariate analysis was used to obtain the frequency distribution and percentage of the characteristics of the study subjects. Bivariate analysis was used to analyze the difference between independent and dependent variables, and multivariate analysis was conducted using the path analysis model.

## 7. Research Ethics

Research ethics, including informed consent, anonymity, and confidentiality, were handled

with care throughout the study process. The ethical clearance was obtained from the Research Ethics Committee of dr. Sayidiman Magetan Hospital, East Java, Indonesia No.445/33/403.300/2024, on January 03, 2024.

# RESULTS

## 1. Univariate Analysis

The univariate analysis presents the mean value, standard deviation, minimum value, and maximum value of each study variable, which includes: nurse performance, job stress, and job satisfaction.

Based on Table 1, it showed that the lowest minimum value was 0 and was discovered in the variables of job stress and workload, while the highest of 4 was discovered in the variables of job stress, workload, job satisfaction, and nurse performance. The lowest average score of 0.99 was discovered in the job stress variable, and the highest was in the nurse performance variable, which was 3.74. The lowest standard deviation value was in the variable of job stress, which was 0.81, and the highest was in the variable workload, which was 1.1.

**Table 1. Univariate Analysis Results of Job Stress, Workload, and Job Satisfaction on Nurse Performance**

| Variable          | Minimum | Maximum | Mean | SD   |
|-------------------|---------|---------|------|------|
| Job stress        | 0       | 4       | 0.99 | 0.81 |
| Workload          | 0       | 4       | 1.79 | 1.12 |
| Job satisfaction  | 1       | 4       | 3.52 | 0.81 |
| Nurse performance | 2       | 4       | 3.74 | 0.52 |

## 2. Bivariate Analysis

Bivariate analysis was used to elucidate the relationship between the independent variables of job stress, workload, and job

satisfaction with the dependent variable, which was nurse performance. The results of bivariate analysis using logistic regression can be seen in Table 2.

**Table 2. Results of Bivariate Analysis of Factors Affecting Nurse Performance**

| Variable         | Coefficient regression | 95% CI      |             | p    |
|------------------|------------------------|-------------|-------------|------|
|                  |                        | Lower limit | Upper limit |      |
| Work stress      | 0.05                   | - 0.01      | 0.11        | 0.06 |
| Workload         | - 0.01                 | - 0.07      | 0.06        | 0.81 |
| Job satisfaction | 1.07                   | 0.02        | 0.19        | 0.02 |

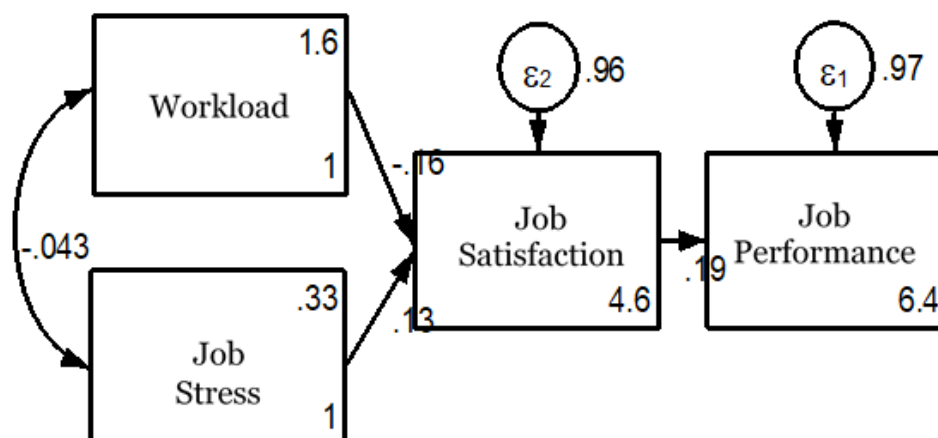
Table 2 shows that for the association between job stress and nurse performance it obtained a regression coefficient value (b) of 0.05; CI 95%= - 0.01 to 0.11, and p= 0.06. It indicates that job stress increased nurse performance by 0.05 times higher than those who did not experience job stress. This association was statistically insignificant.

For the association between workload and nurse performance it obtained a regression coefficient value (b) of -0.01; CI 95%= - 0.07 to 0.06, and p-value= 0.82. It indicates that the workload decreased nurse performance by 0.01 times than those who did not experience workload. This association was statistically insignificant.

For the association between job satisfaction and nurse performance it obtained a regression coefficient value (b) of 1.07; CI 95%= 0.02 to 0.19, and p= 0.02. It indicates that job satisfaction improved nurse performance by 1.07 times higher than those who did not experience job satisfaction. This association was statistically significant.

### 3. Multivariate Analysis

The path analysis model is used to analyze the relationship patterns across variables with the aim of determining the direct or indirect effect of a set of independent variables on dependent variables (Ayuningrum and Murti, 2021). The path analysis in this study aims to analyze the direct effect of job stress variables, workload, and job satisfaction on nurse performance.

**Figure 1. Factors related to work performance among nurses****Table 3. Path Analysis of The Factors Affecting Nurse Performance in Hospitals**

| Dependent Variable     | Independent variable | Path Coefficient (b) | 95% CI      |             | p     |
|------------------------|----------------------|----------------------|-------------|-------------|-------|
|                        |                      |                      | Lower limit | Upper limit |       |
| <b>Indirect effect</b> |                      |                      |             |             |       |
| Performance            | ← Job satisfaction   | 0.19                 | 0.05        | 0.32        | 0.006 |
| <b>Direct effect</b>   |                      |                      |             |             |       |
| Job satisfaction       | ← Workload           | -0.16                | -0.29       | -0.03       | 0.017 |

| Dependent Variable  | Independent variable | Path Coefficient (b) | 95% CI      |             | p     |
|---|----------------------|----------------------|-------------|-------------|-------|
|   |                      |                      | Lower limit | Upper limit |       |
| Job satisfaction  | ← Job stress         | 0.13                 | -0.008      | 0.26        | 0.066 |
| RMSEA= 0.034, CFI= 0.967, TLI= 0.917, SRMR= 0.029, p= 0.294 |                      |                      |             |             |       |

Table 4 shows that job satisfaction improved performance. Each 1 unit increase of job satisfaction would be followed by an increase in performance of 0.19 units ( $b = 0.19$ ;  $CI\ 95\% = 0.05$  to  $0.32$ ;  $p = 0.006$ ). Heavy workloads lowered job satisfaction. Each 1 unit increase in workload would be followed by a decrease in satisfaction of 0.16 units ( $b = -0.16$ ;  $CI\ 95\% = -0.29$  to  $-0.03$ ;  $p = 0.017$ ). Job stress increased job satisfaction. Each 1 unit increase of work stress would be followed by an increase in satisfaction of 0.13 units ( $b = 0.13$ ;  $CI\ 95\% = -0.01$  to  $0.26$ ;  $p = 0.066$ ).

This path analysis model (Figure 1) has a good model fit, which is indicated by the following fit indicators:  $p = 0.294$ ;  $RMSEA = 0.034$ ;  $CFI = 0.98$ ;  $TLI = 0.92$ ;  $SRMR = 0.029$ .

## DISCUSSION

### 1. The Effect of Job Satisfaction on Performance

The results of the path analysis showed that job satisfaction improved performance. Each 1 unit increase of job satisfaction would be followed by an increase in performance of 0.19 units ( $b = 0.19$ ;  $CI\ 95\% = 0.05$  to  $0.32$ ;  $p = 0.006$ ), meaning that good job satisfaction improved performance by 0.19 times compared to poor job satisfaction, and it was statistically significant.

Job satisfaction is the positive feelings that employees have towards their work. This can be influenced by a variety of factors, such as salary, benefits, work environment, relationships with coworkers, and career development opportunities. Job satisfaction is strongly associated with mental/psychological problems, such as fatigue, self-esteem, depression, anxiety, and has little correlation

with subjective physical illness (Abdullah et al, 2021).

Performance is the level of success an employee has in completing tasks and achieving goals. It can be measured in various ways, such as the quantity of output, the quality of work and the attendance rate. Performance affects job satisfaction through engagement or achievement of important individual work values (Javanmardnejad et al, 2021).

### 2. The Effect of Workload on Job Satisfaction

The results of the path analysis showed that heavy workloads decreased job satisfaction. Each 1 unit increase in workload would be followed by a decrease in satisfaction of 0.16 units ( $b = -0.16$ ;  $CI\ 95\% = -0.29$  to  $-0.03$ ;  $p = 0.017$ ), meaning that high workload decreased job satisfaction by -0.29 times compared to low workload and it was statistically significant.

Employees' perceptions of workload balance significantly affect job satisfaction, with factors such as workload comparisons and role alliances affecting job satisfaction. The distribution of workload to employees needs to be considered by the hospital so that the workload distributed is in accordance with the ability and capacity of each employee. Until eventually employees do not feel a high or excessive workload, which can result in fatigue (Hellin et al, 2022).

Fatigue felt by employees can result in an employee working sub-optimally. In addition, the high workload can make employees feel uncomfortable at work, where this discomfort can cause turnover intentions among employees (Maulidah et al, 2022).



A nurse in a hospital found that the effect of workload on job satisfaction resulted in a coefficient of -0.349 with a value of  $t=3.859$  which means that workload has a significant effect on nurse job satisfaction with a negative influence direction. A similar thing is also discovered by Yo and Surya (2015), who conduct a study in the non-health sector and discover that workload has a negative and significant effect on employee job satisfaction with a coefficient of -0.237 and a value of  $t=9.477$  (Rizki et al, 2022).

### 3. The Effect of Job Stress on Job Satisfaction

The results of the path analysis showed that job stress increased job satisfaction. Each 1 unit increase of job stress would be followed by an increase in satisfaction of 0.13 units ( $b=0.13$ ; CI 95%= -0.01 to 0.26;  $p=0.066$ ), meaning that job stress increased job satisfaction by 0.13 times compared to those who did not experience job stress and it was statistically insignificant.

Job stress and employee's job satisfaction are needed to improve service quality, because various studies worldwide state that job stress and job satisfaction affect performance, productivity, efficiency, and effectiveness (Babapour et al, 2022).

Job stress can have negative effects if employees do not have effective coping to resolve issues that arise or are unable to cope with pressures that exceed their capabilities. High stress can cause several health problems, both physical health problems and psychiatric conditions (Orgambidez and Almeida, 2020).

Stress is a complex phenomenon that results from interactions between individuals and their work environment, local forces, pressures, and cultures that require intervention adjustments (Rahmawati, 2022). The direct negative effect of job stress on job satisfaction means that increased work stress can result in a decrease in nurse job satisfaction (Aziz, 2020).

This study concludes that the path analysis was carried out on the data of a cross sectional study conducted in Magetan, East Java, Indonesia. The sample size was 200 nurses at dr. Sayidiman Magetan Hospital, East Java, Indonesia. Nurse performance in hospital inpatient ward improved with better job satisfaction ( $b=0.19$ ; CI 95%= 0.05 to 0.32;  $p=0.006$ ) and higher job stress ( $b=0.13$ ; CI 95%= -0.01 to 0.26;  $p=0.066$ ). Nurse performance decreased with heavier workload ( $b=-0.16$ ; CI 95%= -0.29 to -0.03;  $p=0.017$ ). This path analysis model has good model fit, which is indicated by the following fit indicators:  $p=0.294$ ; RMSEA= 0.034; CFI = 0.98; TLI= 0.92; SRMR= 0.029).

### AUTHOR CONTRIBUTION

Annisa Risnasari as a researcher who chose topics, searched and collected study data. Setyo Sri Rahardjo and Bhisma Murti analyzed data and reviewed study documents.

### CONFLICT OF INTEREST

There was no conflict of interest in this study.

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