

Analysis of Factors Affecting Work Productivity of Implementing Nurses at Mataram University Hospital

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Abstract: Nurses' work productivity plays a crucial role in determining the quality of healthcare services in hospitals. Various factors, including job satisfaction, rewards, competence, job stress, and work environment, are believed to influence nurse productivity. This study aims to identify the dominant factors influencing nurse productivity at Unram Hospital. The purpose of this study was to identify factors that influence nurses' work productivity at Unram Hospital and determine which factors most significantly affect their productivity. This research method used a quantitative approach with a cross-sectional design. Data analysis using descriptive statistical analysis was carried out using a frequency distribution table, while bivariate analysis was conducted using the chi-square test, with Fisher's Exact Test used as an alternative when necessary. Multivariate analysis was conducted using multiple linear regression to assess the influence of each factor on nurse work productivity. The results of the study showed a significant relationship between job satisfaction ($p = 0.000$), rewards ($p = 0.004$), and competence ($p = 0.001$) with work productivity. However, job stress ($p = 0.448$) and work environment ($p = 0.193$) did not show a significant relationship. Multivariate regression analysis showed that job satisfaction ($\beta=140.491$, $p=0.001$) was the dominant factor influencing nurses' work productivity, followed by rewards ($\beta=10.084$, $p=0.076$). Job satisfaction emerged as the dominant factor influencing nurses' work productivity at Unram Hospital. Therefore, hospitals should prioritize improving job satisfaction to improve the quality of healthcare services provided.

Keywords: Job satisfaction; Nursing staff; Reward; Work environment; Work productivity.

Introduction

Hospitals provide comprehensive healthcare services, including emergency, inpatient, and outpatient care. Organizations that recognize the importance of human resource management will implement professional management practices tailored to their needs to maintain the level of work productivity expected by customers. Work productivity refers to the results of activities that produce goods or services that increase in quality and quantity over time (Mahawati, 2021). Maintaining high-quality work productivity

requires high-quality human resources, including nurses.

Nurses in Indonesia constitute a significant group within the healthcare workforce, comprising 40.85% of the total healthcare workforce (Dwiantoro et al., 2023). Work productivity is influenced by various factors, including human resources, materials, machines, methods, motivation, work stress, organizational communication, competence, and work commitment. Other contributing factors include the work environment, work culture, training, and discipline. Motivation, workload, and leadership are reported to contribute significantly to work productivity,

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accounting for 80.63% (Setyowati et al., 2020). Furthermore, work discipline and motivation also influence nurse productivity, contributing to 56.2% (Fitria, 2023). High work productivity has a long-term positive impact on an organization. Productive employees tend to have a positive mindset and strive harder for organizational progress. Therefore, work productivity is a crucial issue that requires serious attention from organizational leaders, especially when planning long-term strategies for the advancement of healthcare services, particularly in the nursing field (Setyowati et al., 2020).

The productivity of nursing work varies significantly, according to several research. Two-thirds of Egyptian nurses report being unproductive. Similar outcomes have been reported by several hospitals in Indonesia. For instance, 56.7% of nurses at Zainal Abidin Pagar Alam Regional Hospital were productively good, whilst 46.3% were not (Farikha & Ardyanto, 2017). At GMIM Bethesda Tomohon General Hospital, 43.4% of nurses had good work productivity, while 56.6% had poor productivity (Wahyudi & Gunarto, 2019). Meanwhile, Dr. M. Djamil Padang Hospital reported that 71% of nurses showed good productivity (Arif et al., 2020).

Employment satisfaction is a factor impacting work productivity. Job satisfaction refers to the positive or negative feelings a person has about their employment, reflected in the congruence between expectations and perceived reality (Jumrana et al., 2022). Based on preliminary data, job dissatisfaction among nurses at the University of Mataram Hospital (RS UNRAM) is caused by several factors, including rewards, competence, and work stress. Rewards are one factor influencing nurses' performance success, which in turn impacts their productivity. Rewards given to nurses are closely related to their job satisfaction (Susanto et al., 2020). Incentives, as a form of recognition, have been shown to have a positive effect on nurses' job satisfaction (Saadiyah & Andri, 2018; Waltz et al., 2020).

Nurse competence also plays a significant role in job satisfaction. Nurses who possess competencies aligned with their duties and responsibilities tend to be more satisfied with their work. Several studies have shown that competence positively influences nurse job satisfaction (Setyowati et al., 2020; Wu et al., 2018). On the other hand, work stress experienced by nurses negatively impacts their job satisfaction (Kuo et al., 2020; Safitri & Astutik, 2019).

The level of job satisfaction among nurses in Indonesia varies across hospitals. For example, at Idaman Regional Hospital in Banjarbaru City, the nurse job satisfaction rate was recorded at 61.97% (Rahmaniah et al., 2020), while at Wangaya Regional Hospital in Denpasar, most nurses reported good job satisfaction

(Wati et al., 2020). Nurses who are satisfied with their jobs tend to demonstrate higher productivity, while job dissatisfaction can decrease their productivity.

The productivity of nurses at Mataram University Hospital remains below the benchmark set by the Ministry of Health, at less than 60%, whereas the intended standard is 70%. The head of the nursing committee acknowledged that nurse performance in the inpatient ward remains inadequate, with average nurse productivity in the first trimester (60%), second trimester (58%), third trimester (56%), and fourth trimester (54%), with a 14% decrease in nurse productivity (57%). This was also felt by patients' families, who expressed dissatisfaction with the nurses' performance, who frequently delayed IV administration and lacked nursing skills. One suspected contributing factor is the nurse-to-patient ratio, which is below the standard (1:3 at Mataram University Hospital, while the standard is 1:1 according to Indonesian Minister of Health Regulation No. 262/Men.Kes/Per/VII/1997).

UNRAM Hospital profile data for 2024 shows that Turnover Interval (TOI) and Bed Turnover (BTO) exceed the established standards. TOI at UNRAM Hospital was recorded at 0.92 days, while the standard TOI is 1-3 days, and BTO was recorded at 90 times, while the standard BTO is 40-50 times. These conditions cause excessive workloads, affect the work environment, and reduce the productivity of nurses (Shaheen et al., 2021). Based on a preliminary study, 10 nurses revealed that low recognition, opportunities for achievement, and infrequent training contributed to their low work productivity. Therefore, this study aims to analyze the factors influencing the productivity of nurses at Mataram University Hospital.

Method

Research design

This study employed quantitative cross-sectional design. This design allowed researchers to collect data on all variables simultaneously, making it more effective and efficient in terms of time and resources. The dependent variable in this study was nurse productivity, while the independent variables were reward, competence, job stress, job satisfaction, and work environment. This study was conducted at Mataram University Hospital for two weeks, from June 16th to 30th, 2025.

Population and sample

The population in this study consisted of all 88 nurses within the Mataram University Hospital. The sample represents a portion of the population and is considered representative of the entire population.

Research variables

The independent variables in this study consisted of five factors suspected of influencing nurse productivity: reward, competence, job stress, job satisfaction, and work environment. The dependent variable in this study was nurse productivity.

Data collection

Both primary and secondary data were used to gather the information. Perceptions of the research variables by respondents are primary data. A questionnaire served as the main tool for gathering data for this investigation. Secondary data is obtained indirectly, often through literature review by reading and studying books and scientific journals related to the research problem. In this study, secondary data included: 1. Hospital profile data, and 2. Data on the number of healthcare workers, nurses, and other healthcare personnel.

Research instrument

The research instrument used for data collection in this study was a questionnaire using Likert scale measurements.

Instrument validity and reliability

A research instrument is considered valid if the product-moment correlation coefficient exceeds 0.05. The instrument reliability test was performed using Cronbach’s alpha value. The results are as follows: Variable X1: 0.880, X2: 0.797, X3: 0.871, X4: 0.93, and Y: 0.89.

Data analysis

Data were analyzed using univariate, bivariate, and multivariate analysis. Univariate analysis is presented in the form of a frequency distribution table for easier understanding. Bivariate analysis was performed using the Chi-square statistical test, due to the dichotomous nature of the data scale (i.e., nominal and ordinal). If the chi-square test does not meet the requirements, the Fisher Exact Test is an alternative. Multivariate analysis was performed using multiple logistic regression. This test was used because the dependent variable is on a nominal, dichotomous, and categorical scale, which is a primary requirement for multiple logistic regression.

Results and Discussion

Respondent characteristics

Respondent age distribution

The distribution of respondents by age category in this study shows that the majority of nurses in the 20-25 age range, with 16 respondents (32.0%). The 26-30 age group was also quite large, comprising 21 respondents (42.0%), indicating a predominance of young people in

the study population. This reflects the relatively young predominance of the nursing workforce at Unram Hospital. Furthermore, the 31-34 age group comprised 10 respondents (20.0%), while the 35-40 age group comprised only 3 respondents (6.0%). This distribution indicates that the productivity of the nurses in the study is dominated by young workers, potentially influencing work dynamics and the productivity factors that are the focus of the analysis.

Table 1. Distribution of Respondents' Age

Age Category	Freq.	Percent	Cum.
21-25 year	16	32.0	32.0
26-30 year	21	42.0	74.0
31-35 year	10	20.0	94.0
36-40 year	3	6.0	100.0
Total	50	100.0	

Mean: 28 tahun. Stdev: 4,278

Respondent Gender Distribution

The majority of nurses at Unram Hospital are women, comprising 34 respondents (68%). This reflects the dominance of women in the nursing profession at the hospital, a common phenomenon in the healthcare sector. This dominance has the potential to impact work patterns and productivity dynamics within the hospital environment. Conversely, male nurses comprised 16 respondents (32%). Although fewer in number, the presence of male nurses adds gender diversity to the nursing profession. This difference in proportion is important to analyze in the context of factors influencing productivity, as gender can impact work patterns and professional relationships.

Table 2. Respondent Gender Distribution

Gender Category	Freq.	Percent	Cum.
Female	34	68.0	68.0
Male	16	32.0	100.0
Total	50	100.0	

Respondent Education Distribution

The majority of nurses at Unram Hospital (34 respondents) have a Diploma 3 degree in Nursing. This indicates that a diploma remains the most common educational level among nursing staff, serving as the primary foundation for their performance and productivity. Furthermore, 15 respondents (30%) have completed a Professional Nursing degree, indicating that some staff have attained professional nursing qualifications. Meanwhile, only one respondent (2%) has pursued a Master's degree in Health, indicating that advanced education is still relatively rare among nurses at this hospital.

Table 3. Distribution of Respondents' Education

Education Category	Freq.	Percent	Cum.
D3 Nursing	34	68.0	68.0
Nursing Profession	15	30.0	100.0
Master of Health	1	2.0	70.0
Total	50	100.0	

Respondent reward distribution

Table 4 shows that the majority of nurses at Unram Hospital received moderate and high rewards, with 23 respondents (46%) and 25 respondents (50%) receiving them, respectively. This indicates that most nursing staff feel they receive adequate rewards, which has the potential to improve staff motivation and performance. Conversely, two respondents (6%) reported low rewards, which could be a concern for hospital management. Low rewards can impact nurse motivation and productivity. Therefore, it is important to evaluate and adjust the reward system to ensure it is more equitable and has a positive impact on all nurses.

Table 4. Distribution of Respondents Based on Rewards

Reward Category	Freq.	Percent	Cum.
Low	2	4.0	4.0
Medium	23	46.0	50.0
High	25	50.0	100.0
Total	50	100.0	

Distribution of respondent competencies

The majority of nurses at Unram Hospital were rated highly competent, with 28 respondents (56%) (Table 5). This indicates that the majority of nursing staff possess a high level of competency and have the potential to improve service quality and work productivity, supporting the achievement of hospital goals. Conversely, 22 respondents (44%) were rated competent, indicating that a small proportion of nursing staff possess sufficient competency but still have room for development. These potential findings provide important insights for hospital management to improve training and development so that all nurses can achieve optimal levels of competency.

Table 5. Distribution of Respondents Based on Competency Level

Competency Category	Freq	Percent	Cum.
Competent	22	44.0	44.0
Highly Competent	28	56.0	100.0
Total	50	100.0	

Distribution of respondents' work stress

The majority of nurses at Unram Hospital did not experience work stress, with 38 respondents (76%) (Table 6). This indicates that most nursing staff can manage work pressure well, potentially supporting their performance and productivity in carrying out daily nursing duties. However, 12 respondents (24%) reported

experiencing work stress, indicating challenges in maintaining the mental well-being of some nurses. This potential finding is important to note, as unmanaged stress can impact productivity. Therefore, a stress management program is needed to improve overall nurse performance.

Table 6. Distribution of Respondents Based on Work Stress

Job Stress Category	Freq	Percent	Cum.
Not Stressed	38	76.0	76.0
Stressed	12	24.0	100.0
Total	50	100.0	

Distribution of respondents' job satisfaction

The majority of nurses at Unram Hospital (36 respondents) were very satisfied with their jobs (72%) (Table 7). This reflects a high level of job satisfaction, which has the potential to increase nurses' motivation and productivity in carrying out their daily duties at the hospital. However, 14 respondents (28%) were only satisfied, indicating that while most nurses are satisfied, some groups may still need improvement in certain aspects. This potential finding provides important insights for management to consider factors that can increase job satisfaction for all nursing staff.

Table 7. Distribution of Respondents Based on Job Satisfaction

Job Satisfaction Category	Freq	Percent	Cum.
Satisfied	14	28.0	28.0
Very Satisfied	36	72.0	100.0
Total	50	100.0	

Distribution of respondents' work environment

The majority of nurses at Unram Hospital rated their work environment as good or very good, with 22 respondents (44%) and 24 respondents (48%) in each category, respectively (Table 8). This reflects that the majority of nursing staff work in an environment that supports their productivity. Four respondents (8%) rated the work environment as poor. This finding suggests potential room for improvement in creating a more conducive work environment. In response, hospital management needs to consider factors that can improve the work environment for all nurses.

Table 8. Distribution of Respondents Based on Work Environment

Work Environment	Freq	Percent	Cum.
Poor	4	8.0	8.0
Good	24	48.0	56.0
Very Good	22	44.0	100.0
Total	50	100.0	

Respondents' Work Productivity Distribution

The majority of nurses at Unram Hospital (38 respondents) have high productivity. This reflects that the majority of nursing staff contribute optimally to healthcare services, potentially improving the quality and efficiency of hospital performance. However, 12 respondents (24%) reported low productivity. This finding potentially indicates a group of nurses who may face obstacles in achieving work targets. Identifying factors influencing this low productivity is important for designing interventions that can improve the performance and well-being of nursing staff.

Table 9. Distribution of Respondents Based on Work Productivity

Work Productivity	Freq	Percent	Cum.
Low Productivity	12	24.0	24.0
High Productivity	38	76.0	100.0
Total	50	100.0	

Bivariate analysis results

Relationship between Rewards and Work Productivity

Before drawing conclusions from the Fisher exact test, it is important to ensure that the chi-square test cannot be used because some samples did not meet the expected frequency of more than 5. Therefore, the Fisher-Freeman-Halton test was chosen as an alternative. The Fisher exact value of 10.023 with a probability (Sig) of 0.004 indicates a significant relationship between reward levels and work productivity at the 5% significance level. Because the Sig value is less than 0.05, the null hypothesis is rejected, indicating a relationship between the two variables.

These findings indicate that rewards have a significant influence on work productivity. This means that the higher the reward level, the higher the work productivity achieved. Therefore, policies that increase rewards can be considered to improve employee performance within the organization and identify other factors that may also influence work outcomes.

Table 10. Relationship between Rewards and Work Productivity

Reward Category	Work Productivity		Total	Sig.
	Low	High		
Low	2	0	2	0.004
	100.0%	0.0%	100.0%	
Medium	8	15	23	
	34.8%	65.2%	100.0%	
High	2	23	25	
	8.0%	92.2%	100.0%	
Total	12	38	50	
	24.0%	76.0%	100.0%	

Relationship between competence and work productivity

The chi-square test assumptions were satisfied since all predicted frequencies satisfied the

requirements. At the 5% significance level, a statistically significant correlation between competence and job productivity is indicated by the Pearson chi-square value of 25.883 with a probability (Sig) of 0.001. The null hypothesis is disproved since there is a correlation between the two variables, as indicated by the Sig value being smaller than 0.05. Consequently, it can be said that in this sample, competence has a major impact on labor productivity. According to this result, nurses' job productivity at Unram Hospital is significantly influenced by this issue.

Table 11. Relationship between Competence and Work Productivity

Competency Category	Work Productivity		Total	Sig*
	Low	High		
Competent	11	11	22	0.001
	50.0%	50.0%	100.0%	
Very Competent	1	27	28	
	3.6%	96.4%	100.0%	
Total	12	38	50	
	24.0%	76.0%	100.0%	

Pearson Chi-Square: 14.560

Relationship between Job Stress and Work Productivity

All expected frequencies met the criteria, indicating that the assumptions for conducting the chi-square test were met (Table 12). The p-value of 0.448 indicates that there is no statistically significant relationship between job stress and work productivity at the 5% significance level. Because the p-value is greater than 0.05, the null hypothesis is accepted, meaning there is no significant relationship between the two variables. Therefore, it can be concluded that job stress does not significantly influence work productivity in this sample. This finding indicates that other factors may play a more significant role in determining work productivity, and further analysis may be needed to identify more significant factors.

Table 12. Relationship between Work Stress and Work Productivity

Category Work Stress	Work Productivity		Total	Sig*
	Low	High		
No Stress	8	30	38	0.448
	21.1%	78.9%	100.0%	
Stress	4	8	12	
	33.3%	66.7%	100.0%	
Total	12	38	50	
	24.0%	76.0%	100.0%	

Pearson Chi-Square: 0,754

The relationship between job satisfaction and work productivity

There was a significant relationship between job satisfaction and the productivity of nurses at Unram Hospital (Table 13). Eleven respondents (78.6%) who

were dissatisfied with their jobs reported low levels of productivity, while only three respondents (21.4%) reported high levels of productivity. This finding indicates that job dissatisfaction negatively impacts nurse performance. Meanwhile, 35 respondents (97.2%) reported high productivity and were satisfied with their jobs. This finding suggests that job satisfaction can improve nurse performance. Therefore, attention to the factors influencing job satisfaction is crucial to support increased nursing productivity in hospitals.

Table 13. Relationship between Job Satisfaction and Work Productivity

Category Job Satisfaction	Work Productivity		Total	Sig*
	Low	High		
Satisfied	11 78.6%	3 21.4%	14 100.0%	0.000
Very Satisfied	1 2.8%	35 97.2%	36 100.0%	
Total	12 24.0%	38 76.0%	50 100.0%	

Pearson Chi-Square: 31,747

The Relationship between the Work Environment and Work Productivity

Table 14 shows the distribution of work productivity based on the work environment category at Unram Hospital. In the group with a very good work environment rating, 19 respondents (86.4%) demonstrated high productivity. Conversely, in the poor work environment category, low and high productivity were achieved by two respondents each (50.0%). Although the proportion of high productivity increased with improved work environment ratings, statistical tests showed an insignificant relationship ($p = 0.193$). This finding indicates that while a good work environment tends to increase productivity, other factors outside the work environment also need to be considered for a more comprehensive understanding of productivity.

Table 14. Relationship between Work Environment and Work Productivity

Category Work Environment	Work Productivity		Total	Sig.
	Low	High		
Not Good	2 50.0%	2 50.0%	4 100.0%	0.193
Good	7 29.2%	17 70.8%	24 100.0%	
Very Good	3 13.6%	19 86.4%	22 100.0%	
Total	12 24.0%	38 76.0%	50 100.0%	

Pearson Chi-Square: 3.129

Multivariate Test Results

Bivariate Selection Stage

The data in Table 15, after bivariate selection, shows that only the work stress variable has a significance value of 0.389 (>0.25). Therefore, it was not included in the next step, namely multivariate modeling.

Table 15. Bevariate Selection Output

Significance	Variable	Description
Rewards	0.007	Participate in Multivariate
Competence	0.003	Participate in Multivariate
Job Stress	0.389	Not Participate in Multivariate
Job Satisfaction	0.001	Participate in Multivariate
Work Environment	0.090	Participate in Multivariate

Multivariate Modeling Stage

The next stage involves conducting multivariate modeling on all independent variables that meet the requirements. The modeling stages are as follows:

Full Model Stage

In the initial stage, all independent variables that passed the multivariate selection were entered into the modeling, thus called the full model stage. The results are shown in Table 16.

Table 16. Initial Multivariate Test Results

Variable	P. Value	Odd Ratio	(95%. CI)
Rewards (X_1)	0.092	9.203	(0.698 – 121,268)
Competence (X_2)	0.537	2.786	(0.108 – 72,205)
Job Satisfaction (X_4)	0.013	62.174	(2.414 – 1601.664)
Work Environment (X_5)	0.545	1.894	(0.240 – 14.962)
Constant	0.009	.000	

Nilai Log likelihood: 18,750

Modeling Stage-1

In this stage, the work environment variable (X_5) was removed from the modeling because it had the highest significance value and was considered confounding. The modeling results are shown in Table 17.

Table 17. Hasil Pemodelan Multivariate Tahap-1

Variable	P. Value	Odd Ratio	(95%. CI)
Rewards (X_1)	0.093	9.071	(0.692 – 118,917)
Competence (X_2)	0.675	1.954	(0.085 – 44.879)
Job satisfaction (X_4)	0.007	90.281	(3.370–12418.638)
Constant	0.006	.000	

Nilai Log likelihood: 19,132

Modeling Stage 2

In this stage, the Competency variable (X2) was removed from the modeling because it had the highest significance value, resulting in the modeling results shown in Table 18.

Table 18. Final Modeling Results

Variable	P Value	Odd Ratio	(95% CI)
Rewards (X ₁)	0.076	10.084	(0.785 –129.544)
Job satisfaction (X ₄)	0.000	140.491	(9.288 –2125.029)

Nilai Log likelihood: 19,303

Next, the odds ratio (OR) calculation is performed as the final step. If the change in OR is >10%, the variable remains excluded from the model, and vice versa. The results of the OR calculation, the final modeling formed is as shown in the table above where the job satisfaction variable has the largest OR with a significance of 0.000, meaning that job satisfaction is the dominant factor that influences nurse work productivity at Unram Hospital. The final modeling results in the table above, the Job Satisfaction variable is the dominant factor that influences nurse work productivity at Unram Hospital with the largest OR value of 140,491 at CI (95%) namely (9,288 -2125,029) with a significance level of 0.000 (<0.05). Thus, it is concluded that every 1% increase in job satisfaction will increase 140 times the opportunity for nurse work productivity after being controlled by the Reward factor.

Table 19. Change in Odds Ratio Modeling

Variable	Odd Ratio Full Model	Odd Ratio (X ₅ Ekclude)	Perubahan OR
Reward (X ₁)	9,203	10.084	0.01%
Jod Satisfied (X ₄)	62.174	140.491	1.0%

Dominant factor

Job satisfaction (X4) is the main factor affecting nurse productivity at Unram Hospital, according to the findings of the logistic regression analysis in Table 5. This is indicated by an odds ratio (B) of 140.491 with a 95% CI. This means that every one-unit increase in job satisfaction increases the likelihood of nurse productivity increasing by 140 times. This figure reflects the significant influence of job satisfaction on nurse productivity. Therefore, it can be concluded that the higher a nurse's job satisfaction, the greater the likelihood of better job performance. This suggests that a key element in raising nurse productivity is job satisfaction. Therefore, there is a chance that work results could be greatly enhanced by advances in factors impacting job satisfaction.

Discussion

The relationship between rewards and nurse productivity

The findings of this study indicate that reward provision has a significant impact on the work productivity of nurses at Unram Hospital. Appropriate reward provision plays a crucial role in increasing nurse motivation, which in turn improves service quality and work productivity. This aligns with the findings of (Husna et al., 2024), who demonstrated that an effective reward system can enhance nurse motivation and performance, ultimately contributing to improved service quality.

Providing rewards, both financial and non-financial, can improve nurse performance and engagement in their work. Demonstrated that work motivation is directly related to increased nurse productivity, which is strongly influenced by appropriate reward provision (Amelia & Sarmini, 2022). Rewards in the form of recognition for achievement encourage nurses to work better and more efficiently.

Research by (Sultan & Peristiowati, 2023) also confirmed that reward provision is positively related to nurse performance. The rewards nurses receive increase their motivation to work more productively. This aligns with previous research, which suggests that appropriate reward provision can strengthen work commitment and reduce turnover rates among medical personnel, which directly impact productivity.

However, not all types of rewards have the same impact on productivity. (Ojemakinde & Mwaura-Smith, 2023) showed that non-monetary rewards, such as recognition from superiors or opportunities for development, can be more effective in motivating nurses than financial rewards. This indicates that rewards must be tailored to nurses' preferences and characteristics to achieve optimal results. (Senanayake, 2021) also emphasized that extrinsic rewards, such as bonuses or financial incentives, have a weak relationship with nurses' work commitment, which can reduce their effectiveness in increasing productivity. Providing more intrinsic rewards, such as verbal recognition and opportunities for development, can have a greater impact on nurse productivity.

Revealed that rewards tailored to the individual needs of nurses can help attract and retain medical personnel, especially in areas with nursing shortages. More personalized and relevant rewards for nurses can increase job satisfaction and reduce turnover, which in turn contributes to increased productivity in hospitals. Research by (Basri et al., 2023) also shows that work stress and motivation are closely related to productivity. Appropriately delivered rewards can increase motivation and reduce work stress, contributing to higher productivity. Therefore, hospitals need to design

reward systems that balance material and non-material rewards that align with nurses' needs and preferences.

The implications of these findings suggest that hospitals need to design more effective reward systems tailored to nurses' needs and preferences. Providing appropriate rewards, whether material or non-material, can increase nurse motivation and productivity. Therefore, hospitals should evaluate and adapt their reward systems to better align with nurses' expectations, thereby providing a sustainable positive impact on their performance.

These findings also emphasize the importance of creating a supportive work environment, where rewards are seen not only as incentives but also as a form of recognition for nurses' hard work and contributions. Therefore, hospitals should consider a combination of financial and non-financial rewards that can improve nurse well-being, strengthen work commitment, and enhance the quality of patient care.

The relationship between competence and nurse work productivity

The findings of this study indicate that nurses with higher competencies tend to demonstrate better productivity. This aligns with competency theory, which states that competency, which encompasses knowledge, skills, and professional attitudes, is directly related to nurse performance and the quality of care provided to patients (Nuryani et al., 2021). Furthermore, longer work experience is often associated with increased skills and confidence in nurses, which in turn contribute to higher productivity. This also aligns with findings that ongoing training and work experience play a crucial role in building nurse competency, which in turn influences their performance (Limbong & Tarigan, 2024).

Research by Halabi et al. (2021) also confirms that a nurse's educational background significantly influences productivity in carrying out their profession. The higher the education, the better the nurse's understanding of medical procedures, which ultimately increases the effectiveness of care. This strengthens the argument that knowledge is a key factor in building competency, which impacts work productivity (Limbong & Tarigan, 2024).

Furthermore, research by (Taha et al., 2019) shows that more competent nurses tend to have higher levels of job satisfaction, which is directly related to increased productivity. This aligns with job satisfaction theory, which states that job satisfaction serves as a mediator between competence and work productivity. Furthermore, increased competence leads to increased job satisfaction, which in turn increases productivity. This reinforces the concept that competence is a key driver of job satisfaction, which influences nurse performance and productivity (Gunawan et al., 2020).

Competent nurses are also more able to manage work stress more effectively, which contributes to increased productivity. This research supports findings on work stress, which suggest that high nurse competence can help nurses cope with stress and work more efficiently (Atalla et al., 2024). However, differences in competence among nurses can lead to variations in work productivity. This is because a lack of structured training can diminish nurses' skills, leading to suboptimal performance (Sengupta et al., 2021). These findings reinforce the importance of ongoing training in improving nurse competency and productivity (Fahruji et al., 2020).

These findings have important ramifications for hospital management in terms of human resource management. In order to boost nurse productivity, hospitals must offer continuous training and opportunities for professional competency development, both of which can lead to higher service quality and productivity (Ortega-Lapiedra et al., 2023). The significance of methods to establish a positive and encouraging work environment is also emphasized by this study. Hospitals may increase nurse competency by offering structured training and fostering a healthy work environment, which will ultimately affect output and patient care quality (Jumrana et al., 2022).

The Relationship Between Job Stress and Nurse Productivity

Job stress and nurse productivity at Unram Hospital did not significantly correlate, according to this study. Statistical test results did not clearly show a relationship between stress and productivity, even though nurses who did not feel stress tended to be more productive. This finding aligns with research by (Cahya et al., 2024), which revealed that stress can reduce nurse productivity, although other factors also play a role. However, in this study, although there was a trend toward lower productivity among nurses experiencing stress, the relationship was not significant. This indicates that job stress is only one of several factors affecting nurse productivity.

Research by (Alsufyani et al., 2022) also showed that job stress can hinder nurses' optimal performance. However, other factors, such as emotional intelligence, can help mitigate the impact of stress and increase productivity. Nurses with better emotional intelligence tend to be better able to manage stress and maintain productivity even under stressful conditions. Other research has shown that high stress can lead to fatigue and sleep disturbances, which in turn negatively impact productivity. Despite the lack of a significant correlation, these results highlight the need of stress management in preventing a drop in the caliber of nursing care (Sinanto, 2023).

Studies by (Pohan et al., 2022) and (Joshi et al., 2020) draw attention to the ways that job patterns, including shift schedules, and demographic characteristics affect nurses' stress levels. An imbalance between work hours and personal life can increase stress levels, which in turn impacts nurse productivity in providing quality healthcare. (Jobe et al., 2017) also showed that in high-stress environments, such as emergency care, productivity can decline due to secondary stress. Although this study did not find a significant relationship, it is important to consider the role of stress in managing nurse performance in hospitals.

Thus, although this study did not show a significant relationship between work stress and productivity, these findings still highlight the need for a more comprehensive approach to nurse stress management. Psychological treatment and stress management training can contribute to increased nurse productivity. Hospitals need to develop stress-reducing programs, such as stress management training and supporting nurses' psychological well-being, to ensure optimal productivity in providing patient care. Additionally, hospitals should concentrate on developing a more supportive and healthy work atmosphere in order to boost nurse productivity. Nurses' work quality and patient outcomes can both be improved by lowering stress levels.

The Relationship Between Job Satisfaction and Nurse Productivity

According to this study, nurses who are happy in their positions are more likely to be productive. This result is in line with study by (Ibrahim et al., 2023), which demonstrated a direct correlation between job happiness and enhanced nurse performance and motivation at work, both of which boost productivity. According to a different study by (Ylitörmänen et al., 2019), higher job satisfaction and nurse productivity are directly correlated with a supportive and cooperative work environment. Enhancing nurse motivation and performance requires a supportive work environment. According to this study, nurses who were happy with their workplace were also more productive.

The results of earlier research by (Ofei et al., 2022) that demonstrated that unfavorable leadership styles can lower nurse job satisfaction and productivity are supported by this study. The level of leadership received by medical staff has a big impact on their job happiness. These results highlight how crucial effective leadership is to raising hospital nurses' performance and productivity. Additionally, it was discovered by (Galanis et al., 2023) that nurse performance and service quality are favorably correlated with job satisfaction. Satisfied nurses are more likely to perform more effectively and deliver higher-quality treatment. This

lends credence to the idea that workplace satisfaction and productivity are significantly impacted when nurses' efforts are acknowledged and valued.

Demonstrated that job satisfaction serves as a mediator influencing emotional exhaustion and workload management, which in turn increases productivity (Maghsoud et al., 2022). This study suggests that work stress can be well managed if nurses are satisfied with their jobs, ultimately increasing productivity. This finding also supports the findings of (Shim & Park, 2023), who showed that gender equality in nursing education is positively associated with job satisfaction and productivity. Nurses who feel valued and have equal opportunities in their jobs tend to be more motivated and productive. The availability of equal opportunities is an important factor in supporting nurse job satisfaction and performance.

Increased job satisfaction can reduce symptoms of burnout and the phenomenon of quiet quitting, a phenomenon where employees choose to simply meet basic job expectations without exerting more effort or taking further initiative. Employees who engage in quiet quitting do not completely leave their jobs, but they no longer make extra commitments or go above and beyond the demands of their jobs. Working only to meet basic demands and not becoming emotionally or mentally involved in the work performed (Karadas & Çevik, 2025). Emphasized that to address quiet quitting, organizations need to create a supportive work environment, implement fair management, and provide appropriate recognition to employees to increase job satisfaction and reduce the phenomenon (Yisa et al., 2024). These findings support the importance of job satisfaction management to ensure nurses work more effectively and provide quality care. Therefore, hospitals need to focus attention on nurse well-being to improve work quality. The implication of these findings is that hospitals should design policies that prioritize nurse job satisfaction. Creating a supportive work environment, rewarding achievements, and improving leadership styles can increase nurse productivity and service quality.

The Relationship between the Work Environment and Work Productivity

This study revealed no significant association between the work environment and nurse productivity at Unram Hospital, while nurses in a more positive work environment were more productive. That a supportive work environment can increase nurse motivation, which in turn has the potential to increase productivity (Labrague et al., 2021). Research conducted by (Taha et al., 2019) showed that quality leadership, adequate resources, and positive coworker relationships significantly influence nurse performance. Although

this study found no significant association, these criteria remain important in affecting nurse productivity in a more attractive work environment.

Research (Zeleníková et al., 2020) found that a more favorable work environment correlated with lower rates of missed care. These findings suggest that, despite the lack of a significant relationship in this study, a supportive work environment has the potential to increase nurse productivity and the quality of care provided. Research (Kadhim et al., 2023) also showed that a positive work environment is associated with higher levels of job satisfaction. Nurses' job satisfaction influences their engagement and productivity. Therefore, although no significant relationship was found in this study, creating a supportive work environment remains crucial for improving nurse performance and productivity.

Revealed that high work stress due to an unsupportive environment can decrease productivity (Cahya et al., 2024). Although this study did not discover a significant association, stress from a poor work environment can still have an impact on nurse productivity and the quality of care provided. A study by (Das et al., 2018) found that a poor work environment can increase stress for nurses, reducing productivity. This emphasizes the need of having a healthy work environment to reduce stress and increase nursing performance, even though no significant association was discovered in this study.

That interventions aimed at improving nurses' work environment can result in better patient outcomes, reduced overtime, and increased job satisfaction (Paguio et al., 2020). Although this study found no significant link between work environment and productivity, creating a supportive work environment is still an important step toward increasing nurse productivity. The consequences of these findings highlight the necessity of enhancing the work environment in hospitals, despite the fact that statistical tests did not reveal a significant association. Hospitals should prioritize controlling job stress, developing coworker relationships, and providing enough resources to promote nurse performance and productivity. Furthermore, hospitals must develop a supportive work atmosphere in which nurses may perform well and offer exceptional care. Structural and social elements in the workplace play an important role in increasing nurse productivity, however their direct effects were not visible in the study results.

Dominant Factors Affecting Nurse Work Productivity

According to this study, job happiness is the most important factor determining nurse productivity. Nurses who are content with their occupations are more involved in their work, which leads to higher

productivity. This is consistent with the findings of this study, which shows that job happiness strongly influences nursing performance (Ismainar et al., 2021; Chaudhary et al., 2023). Furthermore, research by (Ismainar et al., 2021) found that a one-point increase in job satisfaction was associated with a 50% increase in nurse performance. This finding strengthens the argument that job satisfaction plays a significant role in increasing productivity, which directly impacts the quality of patient care provided by nurses.

Research (Kagan et al., 2021) also, underline the importance of personal initiative and a supportive work environment in determining nurse job satisfaction. When nurses feel encouraged in their work, they are more likely to be committed to their tasks, which boosts productivity and quality of care (Nasution et al., 2024). Furthermore, nurses with high levels of job satisfaction are more likely to show dedication to their work. This commitment improves the quality of care provided to patients, thereby increasing nurse productivity. In contrast, variables such as workload, stress, and lack of acknowledgment can greatly impair job satisfaction, as noted by (Gunawati et al., 2022; Jumrana et al., 2022). This suggests that unsupportive workplace conditions can hinder nurse productivity, with job stress being a key inhibiting factor.

Creating supportive working conditions is crucial for nurses to perform optimally. (Syafri et al., 2021) show that creating a supportive environment for nurses contributes to increased job satisfaction, which ultimately improves productivity and the quality of healthcare services. Therefore, hospitals need to focus on efforts to improve nurse job satisfaction, whether through increased recognition, stress management, or creating a more conducive work environment. This will contribute to nurse productivity and better patient care outcomes.

The implications of these findings suggest that hospitals should prioritize efforts to improve nurse job satisfaction to increase their productivity. A focus on supportive working conditions and better stress management will increase job satisfaction, which in turn will lead to higher productivity in providing patient care. Increased job satisfaction can also reduce nurse turnover and absenteeism, ultimately improving workforce stability and the quality of care provided. Therefore, hospitals need to design policies that can increase job satisfaction to ensure the effectiveness and quality of healthcare services.

Implications of Job Satisfaction, Competence, and Rewards on Nurses' Work Productivity for Hospital Management Policy

This study identified three main factors that directly influence nurses' work productivity: job satisfaction, competence, and rewards. These three factors have been shown to play a significant role in

improving the quality of service and nurse performance in hospitals. These findings have important implications for hospital management policies in developing programs that can improve overall nurse productivity.

One of the main findings of this study is that job satisfaction is a dominant factor in increasing nurses' work productivity. Nurses who are satisfied with their jobs tend to be more engaged and work more efficiently, which in turn improves service quality. This finding aligns with research conducted by (Ismainar et al., 2021; Chaudhary et al., 2023), which shows that job satisfaction is strongly related to productivity and service quality. Therefore, hospitals need to develop programs that can increase job satisfaction, such as recognition for achievement, better stress management, and creating a supportive work environment.

Furthermore, nurse competence was also found to be a significant factor in increasing work productivity. Competence, which encompasses knowledge, skills, and professional attitudes, has a direct impact on the quality of care provided by nurses. This finding reinforces the arguments put forward by Limbong & Tarigan (2024) and (Nuryani et al., 2021) Nuryani et al. (2021), who showed that high nurse competence is associated with increased productivity. Therefore, hospitals need to focus efforts on continuous training and professional development aimed at improving nurse competence, which in turn will support their productivity.

Rewards, both financial and non-financial, were also found to be a significant factor in increasing nurse motivation and work productivity. Providing non-financial rewards, such as recognition for achievements and opportunities for development, was more effective than financial rewards in increasing nurse productivity. This finding supports research by (Saputri & Arief Hidayat, 2021), which showed that providing appropriate rewards can improve nurse performance. Therefore, hospitals need to design more personalized reward systems that consider nurses' individual preferences, whether in the form of verbal recognition, recognition, or career development opportunities.

Thus, the significant findings in this study provide clear direction for hospital policies to prioritize improving job satisfaction, competence, and appropriate reward provision. Policies focused on these factors are expected to improve nurse productivity and the overall quality of healthcare services in hospitals. Although work environment factors were not found to have a significant relationship in this study, creating a supportive environment remains crucial for maintaining nurse motivation and job satisfaction, as well as for creating optimal working conditions.

Conclusion

Rewards significantly influence nurses' work productivity at Unram Hospital. The higher the reward received, the higher the nurses' work productivity. Nurse competence has also been shown to significantly influence nurses' work productivity. Nurses with high competence tend to demonstrate better productivity, emphasizing the importance of continuous training in improving nurse performance. The work environment did not show a significant relationship with nurse productivity. Although a better work environment tends to support nurse performance, other factors such as rewards and competence are more influential. Job stress indicates that nurses experiencing stress tend to have lower productivity. As a result, hospitals must develop effective stress management measures in order to boost nurse productivity. Nurse job satisfaction has been demonstrated to be a key element in increasing work productivity. Nurses who are happy with their jobs are more productive, highlighting the necessity of implementing policies that promote job happiness. Future research is needed to go more into the management of occupational stress, which might impact nursing productivity. Although this study did not discover a significant association, stress management is still crucial for nurse well-being and quality of care delivery.

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Author Contributions

Conceptualization, E.H.; Methodology, E.H., S; S; S; L.A.K.; Data Analysis, E.H., S; S; S; L.A.K.; Research Results, E.H., A.A.A.N.W; Discussion, E.H., S., S., S., L.A.K; A.A.A.N.W; Visualization, E.H., A.A.A.N.W; Writing - Original Draft, E.H., A.A.A.N.W; Writing - Review & Editing; E.H., S., S., S., L.A.K; A.A.A.N.W.

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Conflicts of Interest

The authors declare no conflict of interest.

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