



Compensation, Workload, and Job Satisfaction as Determinants of Outsourced Nurses' Performance: A Cross-Sectional Study

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Abstract

Outsourced nurses constitute an increasing proportion of the inpatient nursing workforce in Indonesian hospitals, yet evidence regarding factors influencing their performance remains limited, particularly in police hospitals. This study aimed to examine the simultaneous and partial associations of compensation, workload, and job satisfaction with the performance of outsourced nurses in the inpatient wards of RS Bhayangkara Tk III Manado. A quantitative explanatory study with a cross-sectional design was conducted involving 87 outsourced nurses selected through purposive sampling from a population of 110 nurses. Data were collected using validated questionnaires measuring compensation, workload, and job satisfaction, while nursing performance was assessed by ward supervisors using a 27-item instrument adapted from the Six-Dimension Scale of Nursing Performance. Data were analyzed using multiple linear regression. Compensation, workload, and job satisfaction were simultaneously and significantly associated with nursing performance ($F(3,83) = 11.79, p < .001$), explaining 29.9% of its variance ($R^2 = .299$). Workload showed the strongest negative association ($\beta = -.336, p = .001$), whereas compensation ($\beta = .225, p = .024$) and job satisfaction ($\beta = .213, p = .040$) showed positive, significant associations. These findings indicate that workload had the strongest standardized association with performance, while compensation and job satisfaction were also independently associated with performance. The findings highlight the importance of workload redistribution, equitable compensation, and job-satisfaction programs to support nursing performance. Larger longitudinal studies are recommended to confirm these associations.

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1. INTRODUCTION

Nursing performance is a central determinant of inpatient care quality, patient safety, and the operational reliability of hospital services (Uchmanowicz et al., 2024). Because nurses provide continuous, 24-hour bedside care, even modest declines in their performance translate quickly into slower response times, weaker therapeutic communication, and a higher probability of clinical error (Li et al., 2024). This concern is amplified in hospitals that rely heavily on outsourced, non-permanent nursing staff to meet growing patient demand, a staffing model increasingly common across Indonesian public and specialized hospitals as budgets for permanent civil-servant positions remain constrained (Kurnia et al., 2024).

RS Bhayangkara Tk III Manado, a vertical hospital under the Indonesian National Police, illustrates this pressure. The hospital serves not only the general public but also active and retired police personnel, their families, and detainees, a patient mix that demands rapid, disciplined, and professional service delivery. Internal hospital records show that inpatient visits rose by approximately 6% in 2022, 9% in 2023, and 15% in 2024 relative to the two preceding years, yet the number of outsourced nurses assigned to inpatient wards remained largely unchanged over the same period. The resulting imbalance is consistent with outsourced nurses absorbing both clinical and administrative workloads simultaneously, a pattern that Bruyneel et al. (2025) and Dall'Ora et al. (2022) associate with elevated fatigue, reduced attentiveness, and declining care quality across diverse hospital settings.

Workload of this kind rarely operates in isolation. Compensation and job satisfaction are theorized and empirically shown to interact with workload in shaping how nurses respond to demanding clinical environments. Inadequate or delayed compensation is associated with reduced perceived organizational fairness and is linked to higher turnover intention and lower motivation among health workers (Hidayah & Ananda, 2021; Putra & Yuniarsih, 2022). Job satisfaction, in turn, reflects nurses' emotional appraisal of their work, supervision, and career prospects, and low satisfaction has repeatedly been associated with burnout, disengagement, and reduced clinical performance (Al-Fuqaha et al., 2025; Hapsari et al., 2023). At RS Bhayangkara Tk III Manado, internal quality-monitoring data for 2024–2025 documented patient complaints about delayed nursing response and suboptimal therapeutic communication during peak service hours, while an internal job-satisfaction survey recorded a 10% decline from 2023 to 2024, concentrated in the dimensions of recognition and career development. Preliminary interviews with ward heads and nurses further suggested that many outsourced nurses perceive their compensation as disproportionate to their workload, with occasional delays in service-fee disbursement.

Existing research on these dynamics remains fragmented. Most published studies isolate a single predictor, examining either workload (Bruyneel et al., 2025; Kurnia et al., 2024), compensation (Hidayah & Ananda, 2021; Putra, & Oktamianti, 2025), or job satisfaction (Al-Fuqaha et al., 2025; Suhaimi et al., 2023) in relation to nurse-related outcomes, and are conducted predominantly in general or private hospitals rather than police or other vertical hospitals with distinctive patient populations and organizational structures. Studies that model compensation, workload, and job satisfaction simultaneously against objectively supervisor-rated performance, rather than self-reported performance, are still scarce, particularly for outsourced nursing staff who occupy a structurally more precarious employment position than their permanently employed counterparts (Ebrahimipour et al., 2025). This gap matters because outsourced nurses may respond differently to organizational stimuli than permanent staff, given their comparatively limited job security and benefits (Hult et al., 2023).

Roy's Adaptation Model views nurses as adaptive systems responding to internal and external stimuli through physiological, self-concept, role-function, and interdependence modes (Hosseini & Soltanian, 2022). Because RAM was developed primarily to explain how patients adapt to health-related stimuli, this study also draws on the job demands-resources (JD-R) perspective as a complementary, employee-focused lens, in which workload functions as a job demand and compensation and job satisfaction function as job resources that help nurses cope with that demand (He et al., 2025). In this study, workload represents the focal stimulus most directly relevant to nurses' daily clinical practice, while compensation and job satisfaction function as contextual stimuli influencing self-concept, motivation, and perceived organizational support. Nurse performance is considered the observable adaptive response to these stimuli. Previous evidence suggests that fair compensation and higher job satisfaction are positively associated with performance, whereas excessive workload is associated with impaired performance through fatigue, burnout, and reduced quality of care. However, the relative associations of these factors among outsourced nurses remain insufficiently explored, despite their distinct employment vulnerabilities.

This study addresses that gap by simultaneously testing the partial and combined associations of compensation, workload, and job satisfaction with the performance of outsourced nurses in the inpatient wards of RS Bhayangkara Tk III Manado, using supervisor-rated performance scores and a multiple linear regression framework. The analysis is guided by Roy's Adaptation Model, which frames compensation, workload, and job satisfaction as organizational and psychological stimuli that nurses must adapt to, with performance representing the observable adaptive response (Hosseini & Soltanian, 2022). Specifically, the study aims to describe compensation, workload, job satisfaction, and performance among outsourced nurses, examine the partial and simultaneous associations of these factors with performance, and identify the predictor with the largest standardized association, thereby informing evidence-based human-resource policies to support inpatient service quality.

2. METHODS

This study used a quantitative explanatory research design with a cross-sectional approach to test the partial and simultaneous associations of compensation, workload, and job satisfaction with the performance of outsourced nurses. Explanatory research is appropriate here because the aim was to explain, through hypothesis testing, the statistical associations among variables rather than merely describe them (Sugiyono, 2021). All variables were measured within the same period, and relationships among variables were analyzed using multiple linear regression.

The study was conducted between June and August 2026 in the inpatient wards of RS Bhayangkara Tk III Manado, North Sulawesi, Indonesia. The population comprised all 110 outsourced (non-civil-servant, contract-based) nurses assigned to inpatient care according to the hospital's staffing records. The sample size was calculated using the Slovin formula with a 5% margin of error, yielding a required sample of 87 respondents. Because Slovin's formula assumes probability sampling whereas the actual selection was purposive and criterion-based, the resulting figure should be understood as a target sample size derived from a standard calculation rather than as a formally probability-based sample; in practice, because 87 of the 110 eligible nurses (79%) were ultimately included, the achieved sample closely approximated a near-census of the eligible population rather than a narrowly selective purposive subsample. A purposive sampling technique was used to select respondents who met the following inclusion criteria: (1) actively assigned as an outsourced nurse in an inpatient ward, (2) at least one year of tenure, (3) actively working

during the study period, and (4) willing to participate and sign informed consent. Nurses on sick, maternity, or extended leave, those on temporary rotation outside inpatient wards, those who submitted incomplete questionnaires, or those who withdrew during data collection were excluded. Recruitment proceeded by matching the hospital's roster of outsourced nurses against these criteria until the target of 87 respondents was reached.

Four structured instruments were used, each employing a four-point Likert-type summated-rating scale following standard variable-measurement scaling procedures (Riduwan, 2021). Compensation (X1) was measured with a 24-item questionnaire adapted from the Pay Satisfaction Questionnaire framework, covering pay level, benefits, pay raises, and pay structure/administration. Workload (X2) was measured with a 21-item questionnaire informed by the WISN approach, covering task volume, time pressure, and shift intensity. WISN itself is a staffing-establishment calculation tool rather than a validated subjective-workload perception scale; the items used here adapted its core constructs into a self-report Likert format, and this adaptation should be regarded as a pragmatic operationalization rather than the use of a separately validated perceived-workload instrument. Job satisfaction (X3) was measured with a 20-item questionnaire adapted from the Minnesota Satisfaction Questionnaire and Herzberg's two-factor framework, consistent with recent psychometric applications of the MSQ in healthcare settings (Pana et al., 2025). Performance (Y) was rated by each nurse's immediate ward supervisor, rather than self-rated, using a 27-item instrument adapted from the Six-Dimension Scale of Nursing Performance, following recent cross-cultural validation of the same instrument (Ta'an et al., 2024). Each supervisor typically rated multiple nurses under their direct supervision, and although supervisors were not shown nurses' self-reported compensation, workload, or job-satisfaction responses, a formal blinding protocol was not implemented; the potential for supervisor-rating bias arising from this is acknowledged as a limitation. Separating the source of predictor data (nurse self-report) from outcome data (supervisor rating) was a deliberate design choice to reduce common-method bias, given that correlations can be artificially inflated when all variables are measured from the same respondents at the same time (Podsakoff et al., 2024). All four instruments were translated and adapted into Bahasa Indonesia by the research team, with item wording contextualized for the outsourced-nurse role at RS Bhayangkara Tk III Manado; a formal back-translation procedure was not conducted, and beyond the content- and construct-validity testing reported below, the instruments were not separately validated in an Indonesian outsourced-nursing population prior to this study, which is acknowledged as a limitation.

Both content and construct validity were established before the main study. Content validity was assessed by a panel of three nursing-management experts using the Content Validity Index (CVI); the overall instrument achieved S-CVI/Ave = .97 and S-CVI/UA = .92, with per-variable S-CVI/Ave ranging from .95 (workload) to .99 (performance), exceeding the .90 acceptability threshold (Polit & Beck, 2021). Items flagged for revision were reworded rather than removed, so all originally planned items (24, 21, 20, and 27, respectively) were retained in the final instruments. Construct validity was then tested through Pearson item-total correlation with the 87-respondent sample (r -table = .211 at $df = 85$, $\alpha = .05$); all items exceeded this threshold, with corrected item-total correlations ranging from .253 to .619 for compensation, .342 to .578 for workload, .266 to .540 for job satisfaction, and .261 to .580 for performance. Because construct validity was assessed using the same 87 participants who also completed the main study measures, rather than a separate pilot sample, these item-total correlations and the substantive hypothesis tests reported below are not fully independent; this overlap is acknowledged as a methodological limitation, and future studies are encouraged to validate these instruments

in an independent sample. Internal consistency reliability, assessed with Cronbach's alpha, was .792 for compensation, .826 for workload, .709 for job satisfaction, and .856 for performance, all exceeding the .70 acceptability criterion (Ghozali, 2021).

Data were collected through self-administered questionnaires for compensation, workload, and job satisfaction, and through supervisor-completed rating forms for performance. Written informed consent was obtained from all participants prior to data collection, and respondent confidentiality was maintained throughout the study. Completed instruments were processed through editing, coding, data entry, cleaning, and tabulation prior to analysis.

Data were analyzed using IBM SPSS Statistics (Ghozali, 2021). Univariate analysis described respondent characteristics and the distribution of each study variable using frequencies, percentages, means, and standard deviations. Classical assumption tests preceded the regression analysis: normality was assessed with the Kolmogorov-Smirnov test and Normal P-P Plot, linearity with the ANOVA deviation-from-linearity test, multicollinearity with tolerance and variance inflation factor (VIF) values, and heteroscedasticity with a residual scatterplot and the Glejser test. Normality was checked using both a formal statistical test (Kolmogorov-Smirnov) and a graphical method (Normal P-P Plot) as complementary criteria, consistent with recommended practice for verifying regression normality assumptions; influential observations and outliers were not formally screened using standardized-residual or Cook's-distance diagnostics in this study, which is acknowledged as a limitation. Multiple linear regression was then used to test the partial effect of each predictor (t-test, testing hypotheses H1-H3), the simultaneous effect of all three predictors (F-test, testing H4), and the proportion of variance explained (R²). The predictor with the largest absolute standardized coefficient (beta) among the significant predictors was identified as the predictor with the largest standardized association with performance. Statistical significance was set at $p < .05$. Total scores for compensation, workload, job satisfaction, and performance were each classified into three categories (Low, Moderate, High) using an interval-class formula based on the theoretical minimum and maximum possible score for each instrument (i.e., the theoretical range divided into three equal-width bands), following standard practice for categorizing Likert-based summated scores (Riduwan, 2021).

This study received ethical approval from the Research Ethical Committee of Universitas Karya Husada Semarang, Indonesia, as stated in the Ethical Approval Certificate Number 316/KEP/UNKAHA/LPPM/VIII/2026. The research was conducted in accordance with the ethical principles governing research involving human participants, including respect for participants' rights, confidentiality, informed consent, and protection of participant welfare.

3. RESULTS AND DISCUSSION

Table 1. Characteristics of respondents (N = 87)

Characteristic	Category	n	%
Sex	Male	33	37.93
	Female	54	62.07
Age	< 25 years	12	13.79
	25-30 years	34	39.08
	31-35 years	22	25.29
	36-40 years	12	13.79
	> 40 years	7	8.05
Education	Diploma (D3) in Nursing	38	43.68

	Bachelor (S1) in Nursing	35	40.23
	Registered Nurse (Ners)	13	14.94
	Other	1	1.15
Tenure	1-2 years	29	33.33
	3-4 years	32	36.78
	5-6 years	16	18.39
	> 6 years	10	11.49
Ward	Class I	7	8.05
	Class II	17	19.54
	Class III	21	24.14
	Pediatric	16	18.39
	Obstetric	17	19.54
	Other	9	10.34
Shift pattern	Morning only	7	8.05
	Afternoon only	10	11.49
	Night only	8	9.20
	Rotating	62	71.26
Overtime/month	None	7	8.05
	1-2 times	22	25.29
	3-4 times	34	39.08
	> 4 times	24	27.59
Patients/shift	< 5	4	4.60
	5-10	31	35.63
	11-15	41	47.13
	> 15	11	12.64
Nurses/shift	1	7	8.05
	2	38	43.68
	3	31	35.63
	> 3	11	12.64
Marital status	Single	40	45.98
	Married	43	49.43
	Other	4	4.60

Most respondents were female (62.07%) and aged 25-30 years (39.08%). Diploma (D3) nursing graduates were the largest educational group (43.68%), and tenure was concentrated in the 3-4 year range (36.78%). Respondents were distributed across all inpatient wards, with the largest share in Class III (24.14%), and 71.26% worked a rotating shift pattern. Overtime was common: 39.08% reported working overtime 3-4 times per month and 27.59% more than four times. Nearly half of respondents (47.13%) handled 11-15 patients per shift, most often with only two nurses on duty (43.68%). Slightly more respondents were married (49.43%) than single (45.98%).

Table 2. Descriptive statistics of study variables (N = 87)

Variable	Items	Min	Max	Total Score	Mean	SD	Category
Compensation (X1)	24	43	80	5.454	62.69	6.997	Moderate
Workload (X2)	21	49	79	5.785	66.49	6.744	High

Job Satisfaction (X3)	20	36	59	3.974	45.68	5.066	Moderate
Performance (Y)	27	51	84	5.846	67.20	7.557	Moderate

Compensation and job satisfaction fell in the moderate category, whereas workload was the only variable classified as high, and performance was also moderate. At the item level, compensation was rated highest for benefits matching job needs (item X1_10, mean = 2.72) and lowest for the hospital's recognition of the responsibilities carried by outsourced nurses (item X1_15, mean = 2.49). Workload was rated highest for the varied complexity of patients adding to task demands (item X2_05, mean = 3.30) and lowest, though still above the scale midpoint, for the difficulty of responding quickly to all patient needs when patient volume is high (item X2_03, mean = 3.05). Job satisfaction was highest for the sense of meaning the job provides (item X3_02, mean = 2.41) and lowest for satisfaction with the hospital's work policies (item X3_11, mean = 2.08). Performance was rated highest for adherence to standard nursing care (item Y_02, mean = 2.66) and lowest for polite, clear communication with patients (item Y_13, mean = 2.33).

Table 3. Summary of construct validity, content validity, and reliability.

Variable	Items (total)	Item r-value range	S-CVI/Ave	Cronbach's Alpha
Compensation (X1)	24	.253-.619	.97	.792
Workload (X2)	21	.342-.578	.95	.826
Job Satisfaction (X3)	20	.266-.540	.98	.709
Performance (Y)	27	.261-.580	.99	.856

All item-total correlations exceeded the r-table value of .211 (df = 85, alpha = .05), and every variable's content validity index exceeded the .90 acceptability threshold, confirming that the instruments were both content- and construct-valid. Reliability coefficients for all four variables exceeded the .70 acceptability criterion, with performance showing the highest internal consistency (alpha = .856) and job satisfaction the lowest, though still acceptable (alpha = .709).

Classical assumption tests confirmed that the regression model was statistically appropriate. The Kolmogorov–Smirnov test of the standardized residuals was not significant ($Z = 0.061$, Asymp. Sig. = .200, $p > .05$), indicating normally distributed residuals. Deviation-from-linearity tests were non-significant for all three predictors (compensation: $p = .248$; workload: $p = .634$; job satisfaction: $p = .505$), supporting linear relationships with performance. Tolerance values (.883, .907, and .808) and VIF values (1.133, 1.102, and 1.238) for compensation, workload, and job satisfaction, respectively, were well within acceptable thresholds (tolerance > 0.10 , VIF < 10), indicating no problematic multicollinearity. The Glejser test produced non-significant coefficients for all predictors (compensation: $p = .923$; workload: $p = .259$; job satisfaction: $p = .936$), indicating homoscedasticity.

The simultaneous test (F-test) showed that the combined model of compensation, workload, and job satisfaction significantly predicted nurse performance, $F(3, 83) = 11.793$, $p < .001$. Because $p < .05$, H4 (compensation, workload, and job satisfaction are simultaneously associated with the performance of outsourced nurses) was accepted. The model summary further showed $R = .547$, $R^2 = .299$, and adjusted $R^2 = .274$: the three predictors jointly explained 29.9% of the variance in outsourced nurse performance, with approximately 70.1% of the variance not explained by the variables included in the regression model.

Table 4. Simultaneous test (ANOVA / F-Test) for the regression model.

Model	Sum of Squares	df	Mean Square	F	p
Regression	1.467.879	3	489.293	11.793	< .001
Residual	3.443.799	83	41.492		
Total	4.911.678	86			

Table 4 presents the simultaneous test (ANOVA/F-test) for the regression model. The regression sum of squares (1,467.879) relative to the residual sum of squares (3,443.799) yielded $F(3, 83) = 11.793$ with $p < .001$, confirming that compensation, workload, and job satisfaction together produce a statistically significant regression model for predicting outsourced nurse performance; on this basis, H4 was accepted.

Table 5. Multiple linear regression coefficients (Partial t-Test) for nurse performance (Y).

Predictor	B	SE	Beta	t	p	95% CI
(Constant)	62.524	11.903	-	5.253	< .001	-
Compensation (X1)	0.242	0.106	.225	2.295	.024	[0.031, 0.453]
Workload (X2)	-0.377	0.108	-.336	-3.486	.001	[-0.592, -0.162]
Job Satisfaction (X3)	0.318	0.153	.213	2.085	.040	[0.014, 0.622]

As shown in Table 5, all three predictors showed significant, independent associations with performance in the partial (t-test) analysis. Compensation was positively associated with performance ($B = 0.242$, $\beta = .225$, $t = 2.295$, $p = .024 < .05$); H1 (compensation is associated with performance) was accepted, indicating that higher compensation was associated with higher performance. Workload showed the strongest standardized association of the three predictors and was the only one with a negative sign ($B = -0.377$, $\beta = -.336$, $t = -3.486$, $p = .001 < .05$); H2 (workload is associated with performance) was accepted, indicating that higher perceived workload was independently associated with lower supervisor-rated performance. Job satisfaction was also positively associated with performance ($B = 0.318$, $\beta = .213$, $t = 2.085$, $p = .040 < .05$); H3 (job satisfaction is associated with performance) was accepted. Comparing the absolute value of the standardized beta coefficients among the three significant predictors, workload ($\beta = -.336$) was the largest, identifying it as the predictor with the largest standardized association with outsourced nurse performance among those examined, ahead of compensation ($\beta = .225$) and job satisfaction ($\beta = .213$). The 95% confidence intervals for all three coefficients excluded zero (Table 5), consistent with their statistical significance at $p < .05$.

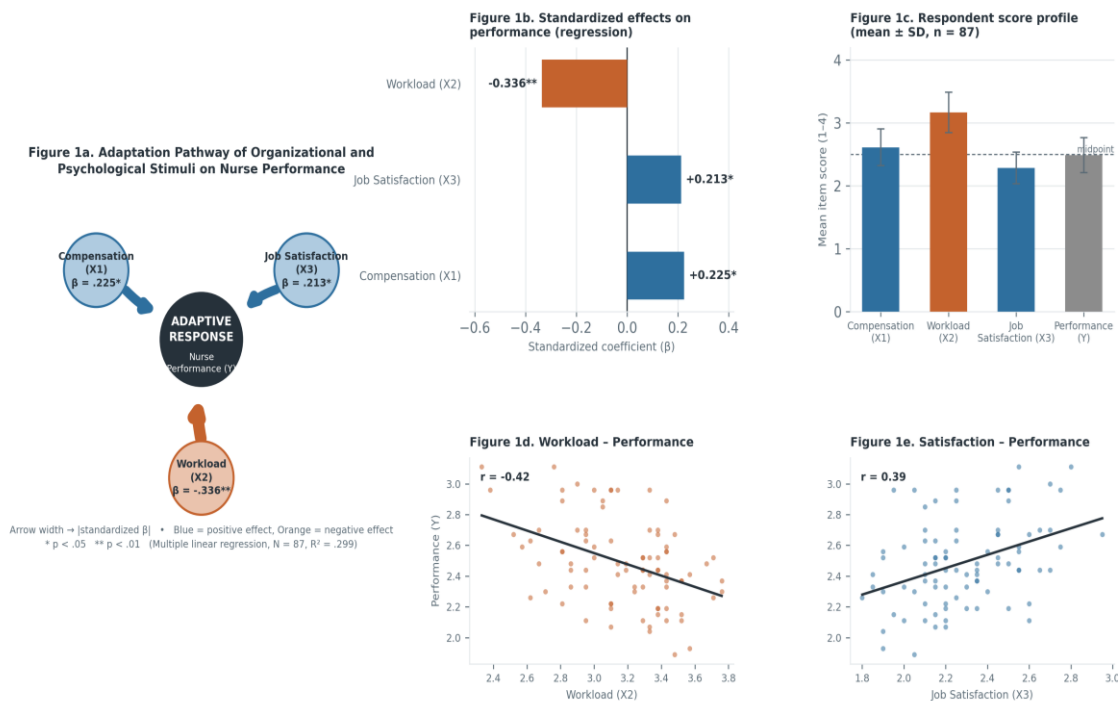


Figure 1. Multivariate profile of compensation, workload, and job satisfaction on the performance of outsourced nurses (Roy Adaptation Model framework, $N = 87$).

Figure 1 presents a multi-panel visualization synthesizing the regression results within the Roy Adaptation Model framework used to guide this study. Panel (a) depicts compensation, workload, and job satisfaction as stimuli converging on the adaptive response of nurse performance, with arrow width encoding the magnitude of each standardized association and color encoding its direction. Panel (b) presents the standardized regression coefficients as a diverging bar chart. Panel (c) presents the mean item-level profile of all four variables against the theoretical midpoint, visually confirming that workload was the only variable scored above the midpoint. Panels (d) and (e) present respondent-level scatterplots for workload and job satisfaction against performance, illustrating the negative and positive bivariate associations, respectively, that underlie the multivariate result.

DISCUSSION

This study found that compensation, workload, and job satisfaction jointly explained 29.9% of the variance in the performance of outsourced nurses at RS Bhayangkara Tk III Manado, with all three predictors showing statistically significant, independent associations (H1, H2, H3, and H4 all accepted). This pattern is broadly consistent with international evidence that nurse performance is associated with multiple organizational and psychological conditions rather than any single factor (Al-Fuqaha et al., 2025; Boudreau & Rhéaume, 2024).

Compensation and Performance. Compensation was positively and significantly associated with performance ($\beta = .225$, $p = .024$): higher compensation was associated with higher nurse performance. This finding indicates that compensation is understood by outsourced nurses not merely as salary, but as organizational recognition of the workload, responsibility, risk, and contribution involved in inpatient care. In this study, compensation

encompassed base salary, incentives or service fees, benefits, work recognition, work facilities, and welfare guarantees; when these are perceived as adequate, nurses find it easier to sustain careful, disciplined, and responsible work behavior. Within Roy's Adaptation Model, compensation functions as a contextual stimulus that helps nurses maintain a positive professional self-concept, which in turn strengthens their motivation to fulfil the caregiver, communicator, educator, and patient-safety roles. This result is consistent with Sultan (2023), who found that pay, work motivation, and the work environment relate to inpatient nurses' job satisfaction, and with Putra and Oktamianti (2025), who emphasized that a remuneration system must be considered alongside organizational culture, leadership, and post-pandemic work pressure because nurse satisfaction is shaped by fairness and workplace support, not compensation alone. It also echoes Wahyuhadi et al. (2023), who reported that remuneration was associated with health workers' job satisfaction and performance during a period of intensified workload, underscoring that compensation-performance associations of this kind are not unique to this setting. The result also supports Astuti et al. (2025), who found that rewards and the work environment affect nurse performance through job satisfaction, reinforcing the conclusion that hospital management needs to ensure compensation is proportionate to actual workload, since compensation perceived as unbalanced can foster a sense of unfairness and lower service morale.

Workload was negatively and significantly associated with performance ($\beta = -.336$, $p = .001$), indicating that higher perceived workload was associated with lower performance. Workload also showed the largest absolute standardized beta among the three significant predictors, indicating the strongest standardized association with performance in this sample, ahead of compensation and job satisfaction. This suggests that the factor most strongly associated with outsourced nurse performance in this sample was not compensation or job satisfaction, but the volume of tasks that had to be completed within a given work period. Workload in this study covered patient numbers, case complexity, the volume of nursing interventions, time pressure, shift and overtime patterns, documentation demands, and staffing adequacy per shift. The respondent profile reinforces this finding, with most respondents working rotating shifts, experiencing frequent overtime, and facing comparatively high patient-to-nurse ratios per shift (Table 1). Thus, the workload experienced by outsourced nurses was simultaneously physical, mental, and administrative, as nurses were required to maintain accuracy in medication administration, documentation, communication, and SOP compliance despite limited service time. Theoretically, this finding aligns with the WISN approach, which emphasizes that health workforce requirements should be calculated based on actual workload; when patient numbers, intervention complexity, and documentation volume increase, staffing needs should be adjusted accordingly (World Health Organization, 2023). Excessive workload may also disturb the physiological and role-function adaptive modes described in Roy's Adaptation Model. In the physiological mode, high workload can contribute to fatigue, reduced energy, and disrupted rest, while in the role-function mode, nurses may experience difficulty fulfilling their professional roles optimally.

The relationship between workload and performance is further supported by evidence linking staffing, workload, and patient safety. Adequate nurse staffing has been associated with better patient outcomes (Dall'Ora et al., 2022), while rationing of nursing care has been associated with increased patient-safety risks, including medication errors, infections, pressure injuries, falls, and readmissions (Uchmanowicz et al., 2024). A strong patient-safety culture, partly supported by manageable workloads, also contributes to safer care (Wahyuningsih et al., 2024). Heavy workload has further been associated with work-related stress among inpatient nurses, which may compound the fatigue pathway

described above (Zainuddin & Hartati, 2022). The negative association between workload and performance may also relate to missed nursing care: when workload increases and time is constrained, some aspects of care may be delayed or incompletely performed, potentially resulting in slower response times, incomplete documentation, weaker therapeutic communication, or reduced precision in nursing interventions. The post-pandemic nursing work environment remains vulnerable to missed nursing care, emotional exhaustion, and turnover intention (Boudreau & Rheume, 2024), while high workload in intensive care has been associated with poorer patient outcomes and more care left undone (Bruyneel et al., 2025). Based on these findings, workload management may warrant priority attention because it showed the strongest standardized association with lower performance among outsourced nurses in this sample.

Job satisfaction was positively and significantly associated with performance ($\beta = .213$, $p = .040$), indicating that higher job satisfaction was associated with higher performance. Job satisfaction in this study encompassed intrinsic satisfaction, including meaning, responsibility, achievement, and opportunities to use one's abilities; extrinsic satisfaction, including compensation, supervision, work policies, working relationships, job security, and working conditions; and general satisfaction with the job as a whole. This finding is consistent with the general theory that satisfaction with one's job encourages positive work attitudes. Satisfied nurses may find it easier to sustain discipline, communication, teamwork, and accountability in care delivery. Within Roy's Adaptation Model, job satisfaction can be understood primarily through the interdependence adaptive mode, which concerns relationships with significant others and support systems. When nurses perceive their work as meaningful, working relationships function well, supervision is supportive, and the organization provides fair recognition, adaptive responses may be strengthened. These responses may be reflected in greater willingness to provide standard-compliant care, maintain therapeutic communication, and complete documentation.

This finding is supported by evidence showing links between job satisfaction, work engagement, and nursing performance. Work engagement may strengthen the relationship between job satisfaction and nurse performance, suggesting that satisfaction may contribute to positive work behaviors through greater engagement (Al-Fuqaha et al., 2025). Job satisfaction among nurses has also been associated with work support, flexibility, professional relationships, and role security, which are particularly relevant to outsourced nurses whose non-permanent employment status may increase sensitivity to supervision, job security, and organizational recognition (Sharrock et al., 2025). The moderate job-satisfaction scores observed in this study, together with comparatively low scores for satisfaction with work policies and compensation, indicate areas for organizational improvement. Because the instrument was grounded in Herzberg's two-factor framework, the lowest-scoring item, satisfaction with hospital work policies, can be interpreted as a hygiene factor. Together with comparatively low-performance ratings for polite and clear communication with patients, these findings identify work-policy satisfaction and therapeutic communication as specific areas requiring attention. Similar evidence indicates that the relationship between job satisfaction and employee performance may vary across hospital settings according to organizational commitment, motivation, and working conditions (Bagis, 2022). Therefore, improving job satisfaction at RS Bhayangkara Tk III Manado may require a comprehensive approach involving compensation, clearer policy communication, supportive head-nurse supervision, and career-development opportunities alongside workload management.

Simultaneous Effect. The simultaneous test confirmed that compensation, workload, and job satisfaction together were significantly associated with the performance of

outsourced nurses, $F(3, 83) = 11.79$, $p < .001$, with the model explaining 29.9% of the variance in performance; the remaining 70.1% was not explained by the variables included in the regression model. This shows that nurse performance is a complex phenomenon that cannot be explained by a single factor alone: compensation reflects organizational support, workload reflects job demands, and job satisfaction reflects nurses' emotional response to their work; together they characterize the working conditions associated with care-delivery behavior. Within Roy's Adaptation Model, these three variables can be understood as stimuli that shape a nurse's adaptive capacity. When the stimuli are supportive, adaptive responses such as responsibility, precision, communication, and SOP compliance are more likely, whereas when the stimuli are burdensome, maladaptive responses such as fatigue, dissatisfaction, delay, and declining service quality can emerge. This finding also aligns with the job demands-resources perspective, in which workload functions as a job demand requiring physical, mental, and time-related energy, while compensation, supervision, recognition, and the work environment function as job resources that help nurses cope with those demands; He et al. (2025) showed that job demands and job resources help explain the relationship between head-nurse leadership and staff-nurse burnout, and environments that provide adequate resources tend to lower work pressure and support sustained performance.

Practically, the findings suggest several potential management implications for RS Bhayangkara Tk III Manado: strengthening the compensation system, redistributing workload, and improving job satisfaction concurrently, with workload management flagged as a potential priority given its comparatively strong negative association with performance in this sample. Concrete steps could include reviewing the nurse-to-patient ratio, shift distribution, overtime frequency, availability of supplementary staffing, and documentation burden, using workforce-planning tools such as WISN (World Health Organization, 2023). At the same time, compensation should be made more transparent and proportionate to contribution, and job satisfaction should be reinforced through supportive head-nurse supervision, clear policy communication, formal recognition, and career-development opportunities. Managed together, these three levers may be more likely to support the performance of outsourced nurses and the quality of inpatient care than any single intervention alone, although this study's cross-sectional design cannot confirm the effectiveness of any specific intervention.

These findings should be interpreted in light of several limitations. The cross-sectional design precludes causal inference, and performance was assessed at a single time point, which cannot capture fluctuations linked to shift patterns or seasonal patient loads. The study was conducted in a single police hospital using a purposive sample, which may limit generalizability to general or private hospitals with different organizational structures. In addition, because 87 of the 110 eligible nurses (79%) were ultimately included, the purposive sample in practice approximated a near-census of the eligible population rather than a small, deliberately selective subsample, which should be considered when interpreting the sampling strategy. Finally, although supervisor-rated performance reduces same-source bias relative to fully self-reported designs, it may still be subject to rater leniency or halo effects, and this study did not formally document how many nurses each supervisor rated or whether supervisors were blinded to nurses' self-reported questionnaire responses; predictor and outcome data were also collected within the same overall study period rather than at temporally separated points. The model's 29.9% explained variance indicates that other factors, such as leadership style, organizational culture, and individual resilience, warrant investigation in future research.

4. CONCLUSION

In sum, based on the analysis of 87 outsourced nurses in the inpatient wards of RS Bhayangkara Tk III Manado, compensation and job satisfaction showed positive, significant associations with nurse performance, whereas workload showed a negative, significant association. As a cross-sectional study, these findings describe associations at a single point in time and should not be interpreted as evidence of causal relationships. Compensation, workload, and job satisfaction were simultaneously and significantly associated with performance, jointly explaining 29.9% of its variance, with workload showing the largest standardized association among the predictors examined in this sample. These findings indicate that effective workload management, fair and timely compensation, and efforts to strengthen job satisfaction are important for supporting the performance of outsourced nurses and the quality of inpatient nursing services. Hospital management is therefore recommended to review workload distribution, shift patterns, overtime frequency, and nurse staffing adequacy, while the nursing division should strengthen supervision, SOP compliance, therapeutic communication, documentation, and patient safety practices. Future researchers are encouraged to examine additional factors such as work motivation, leadership, organizational culture, burnout, and organizational support using longitudinal designs and broader hospital settings.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Wanda Marentek contributed to conceptualization, methodology, data collection, data analysis, and writing of the original draft. Tri Ismu Pujiyanto contributed to supervision, methodology, interpretation of results, and review and editing of the manuscript. Sutrisno contributed to supervision, validation, critical review, and review and editing of the manuscript. All authors read and approved the final manuscript.

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DECLARATION OF ARTIFICIAL INTELLIGENCE USE

The authors declare that ChatGPT was used during the preparation of this manuscript solely to assist with English language editing, grammar, readability, and clarity. The use of ChatGPT did not replace the authors' intellectual contributions, scientific judgment, or responsibility for the research and manuscript content. The authors remain fully responsible for the accuracy, originality, and integrity of the manuscript.

REFERENCES

- Al-Fuqaha, O. N., Rayan, A., Bageas, M. H., Alqadrie, W. T., Alhalaiqa, F., Batiha, A. M., & Rayani, A. M. (2025). Job satisfaction and job performance among critical care nurses: The moderating role of work engagement in public hospitals. *Risk Management and Healthcare Policy*, 18, 3311–3327. <https://doi.org/10.2147/RMHP.S538291>

- Astuti, R. T., Survival, S., & Sediawan, M. L. (2025). The effect of work environment and rewards on nurses' performance mediated by job satisfaction. *International Conference of Business and Social Sciences*, 5(1), 85–95. <https://doi.org/10.24034/icobuss.v5i1.650>
- Bagis, F. (2022). Examine the effect of job satisfaction on the performance of hospital employees through organizational commitment. *International Journal of Economics, Business and Accounting Research (IJEBAR)*, 6(4), 1933–1943. <https://doi.org/10.29040/ijebar.v6i4.7586>
- Boudreau, C., & Rhéaume, A. (2024). Impact of the work environment on nurse outcomes: A mediation analysis. *Western Journal of Nursing Research*, 46(3), 210–218. <https://doi.org/10.1177/01939459241230369>
- Bruyneel, A., Lucchini, A., & Dauvergne, J. E. (2025). The relationship between nursing workload and quality of care in intensive care units. *Critical Care Science*, 37, e20250381. <https://doi.org/10.62675/2965-2774.20250381>
- Dall'Ora, C., Saville, C., Rubbo, B., Turner, L., Jones, J., & Griffiths, P. (2022). Nurse staffing levels and patient outcomes: A systematic review of longitudinal studies. *International Journal of Nursing Studies*, 134, 104311. <https://doi.org/10.1016/j.ijnurstu.2022.104311>
- Ebrahimipour, H., Yousefi, M., Tabatabaee, S., Hooshmand, E., Taghipour, A., & Jamili, S. (2025). Challenges of implementing outsourcing of primary health services from the perspective of stakeholders. *BMC Primary Care*, 26, 355. <https://doi.org/10.1186/s12875-025-03045-z>
- Ghozali, I. (2021). *Aplikasi analisis multivariate dengan program IBM SPSS 26 (10th ed.)*. Semarang: Universitas Diponegoro.
- Hapsari, F. R. P., Murti, B., & Tamtomo, D. (2023). Meta analysis of factors associated with job satisfaction in health workers. *Journal of Health Policy and Management*, 8(3), 214–223. <https://doi.org/10.26911/thejhpm.2023.08.03.05>
- He, J., Tian, Y., Zhai, M., Yang, J., Elihuruma, E., Yang, M., & Li, Y. (2025). Relationship between head nurse leadership and nurses' burnout: Parallel mediation of job demands and job resources among clinical nurses. *BMC Nursing*, 24, 354. <https://doi.org/10.1186/s12912-025-03006-y>
- Hidayah, N., & Ananda, H. R. (2021). Compensation, career development, and job satisfaction as the antecedent of nurse turnover intention. *JMMR (Jurnal Medicoeticolegal dan Manajemen Rumah Sakit)*, 10(2), 139–147. <https://doi.org/10.18196/jmmr.v10i2.10631>
- Hosseini, M., & Soltanian, M. (2022). Application of Roy's adaptation model in clinical nursing: A systematic review. *Journal of Iranian Medical Council*, 5(4), 502–511. <https://doi.org/10.18502/jimc.v5i4.11327>
- Hult, M., Kallio, H., Kangasniemi, M., Pesonen, T., & Kopra, J. (2023). The effects of precarious employment and calling on the psychosocial health and work well-being of young and older workers in the care sector: A longitudinal study. *International Archives of Occupational and Environmental Health*, 96(10), 1383–1392. <https://doi.org/10.1007/s00420-023-02017-z>
- Kurnia, A., Karmilah, K., Khushul, N., Fatimah, S., Intan, T., Ridwan, H., & Sutresna, I. (2024). The effect of workload on nurse performance in hospital inpatient settings: A systematic literature review. *Genius Journal*, 5(2), 315–325. <https://doi.org/10.56359/gj.v5i2.422>
- Li, L. Z., Yang, P., Singer, S. J., Pfeffer, J., Mathur, M. B., & Shanafelt, T. D. (2024). Nurse burnout and patient safety, satisfaction, and quality of care: A systematic review and meta-analysis. *JAMA Network Open*, 7(11), e2443059. <https://doi.org/10.1001/jamanetworkopen.2024.43059>

- Pana, B. C., Maerean, A., Chirila, S. I., Radu, C. P., Mincă, D. G., Ciufu, V., Mociu, A., & Ciufu, N. (2025). Psychometric validation and factor structure of the Minnesota Satisfaction Questionnaire—Short Form in the Romanian private healthcare context. *Healthcare*, 13(23), 3132. <https://doi.org/10.3390/healthcare13233132>
- Podsakoff, P. M., Podsakoff, N. P., Williams, L. J., Molina, A., & Nolan, J. (2024). Common method bias: It's bad, it's complex, it's widespread, and it's not easy to fix. *Annual Review of Organizational Psychology and Organizational Behavior*, 11, 17–61. <https://doi.org/10.1146/annurev-orgpsych-110721-040030>
- Polit, D. F., & Beck, C. T. (2021). *Nursing research: Generating and assessing evidence for nursing practice (11th ed.)*. Wolters Kluwer.
- Putra, A., & Yuniarsih, T. (2022). Pengaruh kompensasi terhadap turnover intention tenaga kesehatan di rumah sakit swasta. *Jurnal Manajemen Pelayanan Kesehatan*, 10(1), 45–53.
- Putra, E., & Oktamianti, P. (2025). Implementation of the remuneration system on the level of job satisfaction of nurses in hospitals. *Jurnal Health Sains*, 6(5), 48–52. <https://doi.org/10.46799/jhs.v6i5.2554>
- Riduwan. (2021). *Skala pengukuran variabel-variabel penelitian*. Alfabeta.
- Sharrock, H., Petrunic, J., Kerr, D., Crowe, S., Gatzonis, L., & Rasmussen, B. (2025). Job satisfaction among nurses employed in supplementary healthcare models: A qualitative descriptive study. *Nursing Open*, 12(4), e70224. <https://doi.org/10.1002/nop2.70224>
- Sugiyono. (2021). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.
- Suhaimi, A., Mulud, Z. A., Ahmad Sharoni, S. K., & Wan Zainodin, W. H. (2023). Factors contributed to job satisfaction among nurses working at tertiary hospitals in the Klang Valley: An adaptation of the Herzberg's theory. *Journal of Sustainability Science and Management*, 18(6), 135–148. <https://doi.org/10.46754/jssm.2023.06.012>
- Sultan, S. (2023). How nurse job satisfaction is affected by compensation, work motivation, and work environment. *Jurnal Manajemen Bisnis*, 10(2), 315–326. <https://doi.org/10.33096/jmb.v10i2.630>
- Ta'an, W. F., Rababah, J. A., Al-Hammouri, M. M., Yousef, J., Mukattash, T. L., & Williams, B. (2024). Validation and cross-cultural adaptation of the six-dimension scale of nursing performance—Arabic version. *BMC Nursing*, 23, 55. <https://doi.org/10.1186/s12912-024-01740-3>
- Uchmanowicz, I., Lisiak, M., Wleklik, M., Pawlak, A. M., Zborowska, A., Stańczykiewicz, B., Ross, C., Czapla, M., & Juárez-Vela, R. (2024). The impact of rationing nursing care on patient safety: A systematic review. *Medical Science Monitor*, 30, e942031. <https://doi.org/10.12659/MSM.942031>
- Wahyuhadi, J., Hidayah, N., & Aini, Q. (2023). Remuneration, job satisfaction, and performance of health workers during the COVID-19 pandemic period at the Dr. Soetomo Hospital Surabaya, Indonesia. *Psychology Research and Behavior Management*, 16, 701–711. <https://doi.org/10.2147/PRBM.S396717>
- Wahyuningsih, C. S., Asih, E. B., Masitoh, R., & Rahmawati, K. (2024). Patient safety culture in hospitals based on Agency for Health Care Research and Quality (AHRQ). *Journal of Health Policy and Management*, 9(2), 197–210. <https://doi.org/10.26911/thejhpm.2024.09.02.06>
- World Health Organization. (2023). *Workload indicators of staffing need (WISN): User's manual (2nd ed.)*. World Health Organization. <https://www.who.int/publications/i/item/9789240070066>
- Zainuddin, M., & Hartati, S. (2022). Beban kerja dengan stres kerja perawat dalam pelaksanaan asuhan keperawatan di ruang rawat inap. *Jurnal Keperawatan Terapan*, 14(2), 90–99.