Jurnal Persatuan Perawat Nasional Indonesia
Journal of Indonesian National Nurses Association
P-ISSN: 2503-1376 E-ISSN: 2549-8576

Organizational Culture, Leadership Characteristics, Job Satisfaction, and Organizational Commitment Among Nurses In Indonesian Private Hospitals

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Received:
8 June 2026

Revised:
2 July 2026

Accepted:
28 July 2026

Keywords:
job satisfaction, leadership characteristics, nurses, organizational commitment, organizational culture

DOI:

ABSTRACT

Objective
To examine the associations of organizational culture, leadership characteristics, and job satisfaction with organizational commitment among nurses in Indonesian private hospitals.

Methods
A cross-sectional correlational study was conducted among 100 registered nurses recruited through purposive sampling from three Indonesian private hospitals. Organizational culture, leadership characteristics, job satisfaction, and organizational commitment were measured using the Organizational Culture Assessment Instrument (OCAI), Multifactor Leadership Questionnaire (MLQ), Job Satisfaction Survey (JSS), and Organizational Commitment Questionnaire (OCQ), respectively. Data were analyzed using descriptive statistics, Pearson's correlation, and multiple linear regression.

Results
Hierarchy culture had the highest mean score, although the difference from clan culture was minimal. Leadership characteristics and several job satisfaction domains demonstrated significant positive correlations with organizational commitment. In the multiple linear regression analysis, leadership characteristics ($\beta = 0.292$, $p = 0.001$) and communication satisfaction ($\beta = 0.372$, $p < 0.001$) were independently associated with organizational commitment after adjustment for other

http://dx.doi.org/10.32419/jppni.v11i2.993

study variables. Organizational culture dimensions were not independently associated with organizational commitment.

Conclusion

Leadership characteristics and communication satisfaction were significantly associated with organizational commitment among nurses in Indonesian private hospitals. These findings highlight the potential importance of supportive leadership and effective workplace communication in fostering organizational commitment. Further studies using longitudinal designs are warranted to confirm these associations.

Background

Among nurses, higher organizational commitment has been associated with greater work engagement, improved job performance, stronger job satisfaction, and reduced intention to leave the organization (Lee *et al*., 2022; Meyer & Allen, 1991). Because organizational commitment influences nurses' attitudes and behaviors within healthcare organizations, understanding the organizational factors associated with commitment has become an important focus of nursing management. Despite increasing attention to nursing workforce management, evidence regarding the organizational determinants of nurses' commitment in Indonesian private hospitals remains limited.

Private hospitals in Indonesia operate in an increasingly competitive healthcare environment, requiring healthcare organizations to maintain high-quality services while adapting to changing patient needs and organizational demands. Compared with public hospitals, private hospitals generally have greater managerial autonomy in organizational governance, leadership practices, and human resource management, whereas public hospitals are more strongly influenced by governmental regulations, standardized remuneration systems, civil servant employment policies, and administrative procedures. Consequently, organizational culture, leadership characteristics, and job satisfaction in private hospitals are more likely to reflect internal organizational processes than external regulatory influences, providing a relatively homogeneous organizational context for examining their relationships with organizational commitment.

Recent Indonesian studies have demonstrated that leadership style, organizational support, workplace communication, and job satisfaction are associated with nurses' organizational attitudes and work-related outcomes (Amaliah *et al*., 2021; Melia, Zahari, & Yamali, 2025; Rindu *et al*., 2020). However, these studies have primarily examined individual organizational factors and were commonly conducted in single hospitals or public healthcare settings. Few studies have simultaneously investigated organizational culture, leadership characteristics, job satisfaction, and organizational commitment among nurses in Indonesian private hospitals. Consequently, the combined contribution of these organizational factors remains insufficiently understood.

Organizational culture is recognized as a fundamental organizational factor influencing employees' attitudes and behaviors. According to Schein and Schein (2021), organizational culture consists of shared assumptions, values, and beliefs that guide employees' perceptions and behaviors within an organization. In healthcare settings, organizational culture influences teamwork, communication, collaboration, innovation, and decision-making, all of which shape nurses' workplace experiences. Recent evidence indicates that supportive organizational cultures

characterized by collaboration, trust, and shared values are associated with higher job satisfaction, stronger organizational commitment, and improved workforce performance among healthcare professionals (Boyd & Larson, 2023; Nguyen *et al*., 2023; Zeb *et al*., 2021). The Competing Values Framework categorizes organizational culture into clan, adhocracy, market, and hierarchy cultures, each representing distinct organizational priorities and management approaches (Cameron & Quinn, 2011). Accordingly, each culture type is theoretically expected to influence nurses' organizational commitment through different organizational mechanisms. Specifically, clan culture, which emphasizes collaboration and participation, has been associated with stronger employee commitment and engagement; adhocracy culture encourages innovation and autonomy that may enhance organizational identification; market culture promotes goal achievement and performance orientation, which may influence commitment through organizational expectations; whereas hierarchy culture emphasizes stability, coordination, and standardized procedures that may foster commitment through organizational consistency (Boyd & Larson, 2023; Cameron & Quinn, 2011; Nguyen *et al*., 2023).

Leadership characteristics are another important organizational factor associated with nurses' organizational commitment. According to Full Range Leadership Theory, transformational leadership promotes employees' motivation, organizational identification, and commitment through inspirational motivation, intellectual stimulation, individualized consideration, and idealized influence (Avolio & Bass, 2001). In contrast, transactional leadership reinforces organizational commitment by clarifying performance expectations and providing contingent rewards, whereas passive or avoidant leadership may weaken commitment because of limited managerial support and ineffective communication. Recent systematic reviews continue to demonstrate that transformational leadership is associated with higher job satisfaction, stronger organizational commitment, increased work engagement, and improved quality of care among nurses (Hult *et al*., 2023; Niinihuhta & Häggman-Laitila, 2022; Specchia *et al*., 2021). Collectively, these theoretical and empirical findings suggest that different leadership styles may influence nurses' organizational commitment through distinct mechanisms. Therefore, examining transformational, transactional, and passive leadership dimensions provides a more comprehensive understanding of how leadership characteristics are associated with organizational commitment.

Job satisfaction is also closely associated with organizational commitment. Nurses who are satisfied with supervision, communication, recognition, professional development opportunities, and working conditions are more likely to develop stronger commitment toward their organizations (Alkhateeb *et al*., 2025; Jankelová & Joniaková, 2021; Notarnicola *et al.,* 2024). Previous studies have also shown that organizational culture and leadership influence employees' workplace experiences and job satisfaction, which may subsequently strengthen organizational commitment (Boamah *et al*., 2018; Notarnicola *et al*., 2024). Although these organizational factors have been widely investigated individually, evidence simultaneously examining organizational culture, leadership characteristics, job satisfaction, and organizational commitment among nurses in Indonesian private hospitals remains scarce. Furthermore, most Indonesian studies have focused on single organizational factors or public healthcare settings, limiting understanding of how these organizational characteristics jointly relate to organizational commitment in private hospitals. From a theoretical perspective, job satisfaction is considered an organizational factor associated with organizational commitment because positive workplace experiences strengthen employees' emotional attachment and identification with their organization. Although previous studies have suggested that job satisfaction may mediate the relationships between organizational culture, leadership, and organizational commitment, evidence examining these organizational factors simultaneously among nurses in Indonesian private hospitals remains limited.

Private hospitals in Jakarta operate in a highly competitive healthcare environment and play an important role in delivering healthcare services. Among them, three accredited private hospitals shared comparable organizational governance, accreditation standards, and nursing management systems while representing different private healthcare institutions. There is still limited information related to organizational factors associated with nurses' organizational commitment in those hospitals. No formal preliminary study was conducted before this research; however, the study was undertaken in response to the limited evidence regarding organizational culture, leadership characteristics, job satisfaction, and organizational commitment among nurses in Indonesian private hospitals. Therefore, this study aimed to examine the associations between organizational culture, leadership characteristics, job satisfaction, and organizational commitment among nurses in Indonesian private hospitals. Organizational commitment was examined as the primary outcome, whereas organizational culture, leadership characteristics, and job satisfaction were evaluated as explanatory variables.

Methods

This cross-sectional correlational study examined the associations among organizational culture, leadership characteristics, job satisfaction, and organizational commitment among nurses. The study was reported in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines for cross-sectional studies. The study was conducted from January to March 2026 at three accredited private hospitals in Jakarta, Indonesia. The participating hospitals consisted of two Type B hospitals and one Type C hospital, with bed capacities ranging from 144 to 398 beds and nursing workforces ranging from approximately 150 to 500 registered nurses. All hospitals held national Paripurna accreditation, provided inpatient, outpatient, and intensive care services, and maintained formal nursing management structures led by nursing managers or heads of nursing services. Although the hospitals differed in size, they were purposively selected because they shared comparable organizational governance, accreditation standards, and nursing management systems while representing different private healthcare institutions. To preserve institutional confidentiality, the names of the participating hospitals are not reported.

The target population consisted of registered nurses working at the three participating hospitals. Participants were recruited from all three participating hospitals using purposive sampling until the target sample size was achieved. Eligible nurses were identified with the assistance of nursing administrators and informed about the study during staff meetings and through unit coordinators. Nurses who agreed to participate provided written informed consent before receiving the questionnaire. Participation was voluntary, and no incentives were provided. Eligible participants were registered nurses who had worked at their current hospital for at least one year. Nurses who were on leave during data collection, undergoing internship or probation periods, or who returned incomplete questionnaires were excluded from the analysis.

The minimum sample size was estimated based on recommendations of 10–15 observations per explanatory variable for multiple linear regression (Tabachnick & Fidell, 2019). Because the regression model included eight explanatory variables, a target sample of 80–120 participants was considered appropriate. A total of 108 eligible nurses were invited to participate. Five declined participation, and three returned incomplete questionnaires, resulting in a final sample of 100 nurses (response rate: 92.6%).

Data were collected using a demographic questionnaire and four standardized instruments measuring organizational culture, leadership characteristics, job satisfaction, and organizational commitment. The demographic questionnaire collected information on participants' gender, educational background, and length of employment. Organizational culture was measured

using the Indonesian version of the Organizational Culture Assessment Instrument (OCAI), originally developed by Cameron and Quinn (2011). The instrument comprises six organizational dimensions, each containing four alternative statements representing the four organizational culture types: clan, adhocracy, market, and hierarchy. For each organizational dimension, respondents allocated a total of 100 points across the four alternatives according to the extent to which each statement reflected the characteristics of their organization. Thus, the four responses within each organizational dimension summed to 100 points. Scores for each organizational culture type were calculated by averaging the allocated points across the six organizational dimensions, resulting in culture profile scores ranging from 0 to 100, with higher scores indicating stronger representation of the corresponding organizational culture. Because the four organizational culture dimensions were derived from a fixed allocation of 100 points within each organizational dimension, they are mathematically interdependent rather than statistically independent. This compositional scoring procedure was considered during the multivariable analysis. Previous studies have demonstrated acceptable construct validity and reliability of the OCAI across organizational and healthcare settings (Cameron & Quinn, 2011; Huy *et al*., 2020; Amran & Setyanegara, 2021). The Indonesian version used in this study was adapted and psychometrically evaluated by Amran and Setyanegara (2021) for use in Indonesian organizations.

Leadership characteristics were assessed using the Indonesian version of the Multifactor Leadership Questionnaire (MLQ-5X Short Form), originally developed by Avolio and Bass (2004). The instrument consists of 45 items measuring transformational, transactional, and passive/avoidant leadership behaviors using a five-point Likert response scale. Higher scores indicate stronger leadership characteristics. Previous psychometric studies have demonstrated satisfactory construct validity, with confirmatory factor analyses supporting the multidimensional structure of transformational, transactional, and passive leadership, and acceptable reliability, with Cronbach's alpha coefficients generally exceeding 0.70 (Avolio & Bass, 2004; Rowold, 2005).

Job satisfaction was measured using the Indonesian version of the Job Satisfaction Survey (JSS), originally developed by Spector (1985). The JSS consists of 36 items covering nine dimensions: pay, promotion, supervision, fringe benefits, contingent rewards, operating conditions, coworkers, nature of work, and communication. Responses were rated using a six-point Likert scale, with higher scores indicating greater job satisfaction. Previous validation studies have demonstrated satisfactory construct validity of the nine-factor structure and good reliability among healthcare professionals (Batura *et al.,* 2016; Spector, 1985).

Organizational commitment was measured using the Indonesian version of the Organizational Commitment Questionnaire (OCQ) based on Meyer and Allen's three-component model, assessing affective, continuance, and normative commitment. The instrument uses Likert-scale responses, with higher scores indicating stronger organizational commitment. Previous studies have supported the construct validity of the three-component model and demonstrated satisfactory reliability among healthcare professionals, including Indonesian nurses (Meyer & Allen, 1991; Sulistiawan, Diahsari, & Situmorang, 2020).

Previously validated Indonesian versions of all instruments were used in this study. The original English questionnaires had been translated into Indonesian using a standardized cross-cultural adaptation process reported in the respective validation studies. This process included forward translation by bilingual translators, synthesis of the translated versions, backward translation into English by independent translators, expert committee review to ensure semantic, conceptual, and cultural equivalence, pilot testing among Indonesian respondents, and psychometric evaluation. The validation studies demonstrated acceptable content validity, construct validity, and internal consistency, supporting the suitability of the Indonesian versions for assessing organizational culture, leadership characteristics, job satisfaction, and organizational

commitment among Indonesian nurses. The validity of the OCAI, MLQ-5X, JSS, and OCQ was evaluated by Amran and Setyanegara (2021), Kolomboy *et al.* (2021), Ibrahim *et al.* (2025), and Sulistiawan *et al*. (2020), respectively. Specifically, the JSS demonstrated standardized factor loadings ranging from 0.61 to 0.90 (CFI = 0.951, GFI = 0.946, RMSEA = 0.055), while the OCAI and OCQ demonstrated satisfactory construct validity based on confirmatory factor analysis. The reliability coefficients (Cronbach's alpha) of the Indonesian versions of the OCAI, MLQ-5X, JSS, and OCQ were 0.91 (Amran & Setyanegara, 2021), 0.93 (Kolomboy et al., 2021), 0.956 (Ibrahim *et al*., 2025), and 0.81 (Sulistiawan *et al.,* 2020), respectively.

Data were collected using self-administered questionnaires distributed to eligible participants after obtaining permission from the participating hospitals. Eligible nurses received verbal and written information regarding the study objectives, procedures, voluntary participation, confidentiality, and anonymity before completing the questionnaires. Written informed consent was obtained from all participants prior to data collection. To minimize response bias and perceived coercion, questionnaires were completed anonymously and returned directly to the research team in sealed envelopes. Participants were assured that their responses would remain confidential, would not be disclosed to hospital management or supervisors, and would not affect their employment status.

Data were analyzed using IBM SPSS Statistics version 22 (IBM Corp., Armonk, NY, USA). Descriptive statistics were used to summarize respondent characteristics and study variables. The distribution of continuous variables was assessed using the Shapiro–Wilk test. All continuous variables were approximately normally distributed ($p > 0.05$) and are therefore presented as means and standard deviations (SD), whereas categorical variables are presented as frequencies and percentages. Pearson's correlation analysis was performed to examine bivariate associations among the study variables. Multiple linear regression analysis was conducted to examine the independent associations of organizational culture, leadership characteristics, and job satisfaction with organizational commitment after adjustment for gender, educational level, and length of employment. Prior to conducting multiple linear regression, the assumptions of linear regression were evaluated. Normality of residuals was assessed using normal probability (P–P) plots and standardized residuals. Linearity and homoscedasticity were examined through scatterplots of standardized residuals against standardized predicted values. Multicollinearity was assessed using variance inflation factors (VIF) and tolerance values. Influential observations were evaluated using Cook's distance. Variables included in the multivariable regression model were specified *a priori* based on the study conceptual framework. Organizational culture, leadership characteristics, and job satisfaction represented the primary organizational constructs of interest, whereas gender, educational level, and length of employment were included as potential confounders. To reduce model complexity relative to the available sample size, the overall MLQ score was used to represent leadership characteristics, and communication was selected as the representative job satisfaction dimension because it reflects an important organizational process closely related to leadership and demonstrated a significant association with organizational commitment in the bivariate analysis. The regression analysis should therefore be interpreted as exploratory. Statistical significance was set at $p < 0.05$. Ethical approval for this study was obtained from the Nursing Research Ethics Committee, Faculty of Nursing, Universitas Muhammadiyah Jakarta, prior to data collection (Approval No. 1988/F.9-UMJ/XI/2025).

Results

Characteristics of Respondents

A total of 100 nurses participated in this study. Most participants were female (80.00%), held a Bachelor/Professional Nurse (S1-Ners) qualification (80.00%), and had worked at their current

hospital for more than three years (73.00%). The demographic characteristics of the participants are summarized in Table 1.

Organizational Culture and Leadership's Characteristics

The descriptive statistics for organizational culture and leadership characteristics are presented in Table 2. Among the four organizational culture dimensions, hierarchy culture (M = 25.54, SD = 1.23) and clan culture (M = 25.51, SD = 1.55) demonstrated very similar mean scores, whereas adhocracy culture (M = 24.63, SD = 1.35) and market culture (M = 24.32, SD = 1.82) had comparatively lower mean scores. These findings indicate that respondents perceived characteristics of hierarchy and clan cultures to a similar extent. Leadership characteristics were assessed using the MLQ. Among the transformational leadership dimensions, idealized influence (behavior) demonstrated the highest mean score (M = 2.74, SD = 0.66), followed by individualized consideration (M = 2.64, SD = 0.66), inspirational motivation (M = 2.62, SD = 0.71), intellectual stimulation (M = 2.40, SD = 0.69), and idealized influence (attributes) (M = 2.34, SD = 0.74). For transactional leadership, contingent reward demonstrated a mean score of 2.54 (SD = 0.60), whereas management by exception (active) had a mean score of 2.08 (SD = 0.72). Passive leadership dimensions, including management by exception (passive) (M = 1.04, SD = 0.69) and laissez-faire leadership (M = 1.05, SD = 0.66), showed the lowest mean scores. Overall, respondents perceived transformational and transactional leadership behaviors more frequently than passive leadership behaviors.

Correlation among Organizational Culture, Leadership, Job Satisfaction, and Organizational Commitment

Pearson correlation coefficients are presented in Table 3. None of the organizational culture dimensions demonstrated significant correlations with organizational commitment. However, clan culture was positively correlated with overall job satisfaction ($r = .211$, $p < .05$), whereas hierarchy culture was negatively correlated with overall job satisfaction ($r = –.212$, $p < .05$). Several leadership dimensions demonstrated significant positive correlations with organizational commitment. Among the transformational leadership dimensions, idealized influence (behavior) ($r = .428$, $p < .01$), inspirational motivation ($r = .434$, $p < .01$), intellectual stimulation ($r = .335$, $p < .01$), and individualized consideration ($r = .316$, $p < .01$) were significantly associated with organizational commitment. Contingent reward, representing transactional leadership, also demonstrated a significant positive correlation with organizational commitment.

In contrast, management by exception (passive) was negatively correlated with organizational commitment ($r = –.313$, $p < .01$). Several job satisfaction dimensions were significantly associated with organizational commitment. The strongest positive correlation was observed for coworkers ($r = .516$, $p < .01$), followed by communication ($r = .456$, $p < .01$), nature of work ($r = .431$, $p < .01$), operating conditions ($r = .410$, $p < .01$), fringe benefits ($r = .372$, $p < .01$), pay ($r = .269$, $p < .01$), supervision ($r = .275$, $p < .01$), and contingent rewards ($r = .227$, $p < .05$). Promotion was not significantly correlated with organizational commitment.

Multiple Linear Regression Analysis of Organizational Commitment

Multiple linear regression analysis was performed to examine the independent associations of organizational culture, leadership characteristics, and job satisfaction with organizational commitment after adjustment for gender, educational level, and length of employment (Table 4). Variables were selected a priori based on the study conceptual framework. To reduce model complexity, one representative job satisfaction dimension (communication) and the overall MLQ score were included together with the organizational culture dimensions and demographic covariates.

Table 1. Demographic Characteristics of Respondents (n=100)

Variable	Category	n	%
Gender	Male	20	20.00
	Female	80	80.00
Educational Background	Diploma (D3)	20	20.00
	Bachelor/Professional Nurse (S1-Ners)	80	80.00
Length of Employment	1 – 3 years	27	27.00
	> 3 years	73	73.00

Table 2. Descriptive Statistics of Organizational Culture and Leadership Dimensions

Variable	Mean	SD
OCAI – Clan Culture	25.51	1.55
OCAI – Adhocracy Culture	24.63	1.35
OCAI – Market Culture	24.32	1.82
OCAI – Hierarchy Culture	25.54	1.23
Idealized Influence – attributes	2.34	0.74
Idealized Influence – behaviors	2.74	0.66
Inspirational Motivation	2.62	0.71
Intellectual Stimulation	2.40	0.69
Individualized Consideration	2.64	0.66
Contingent Reward	2.54	0.60
Management by exception – active	2.08	0.72
Management by exception – passive	1.04	0.69
Laissez–faire Leadership	1.05	0.66

Note: OCAI = Organizational Culture Assessment Instrument

Prior to model estimation, regression assumptions were evaluated. Inspection of residual plots indicated no substantial deviations from normality, linearity, or homoscedasticity. No influential observations were identified based on Cook's distance values (<1.0). Multicollinearity was assessed using tolerance values and variance inflation factors (VIF). Because the OCAI dimensions were derived from a compositional scoring procedure in which respondents allocated a fixed total of 100 points across the four organizational culture types, multicollinearity among the culture dimensions was evaluated before regression analysis. The market culture dimension demonstrated extremely severe multicollinearity (Tolerance = 8.61×10^{-6}; VIF = 116,212.28) and was therefore excluded from the final regression model to obtain stable parameter estimates.

The overall regression model was statistically significant ($F(8,91) = 5.774$, $p < .001$), explaining 33.7% of the variance in organizational commitment ($R^2 = .337$; adjusted $R^2 = .278$). After adjustment for demographic characteristics and organizational culture dimensions, higher overall leadership characteristics (B = 4.012, 95% CI: 1.582 to 6.443, p = .001) and communication satisfaction (B = 0.821, 95% CI: 0.436 to 1.206, $p < .001$) were independently associated with higher organizational commitment. None of the organizational culture dimensions or demographic variables showed statistically significant independent associations.

Table 3. Pearson Correlations of Organizational Culture, Leadership, and Job Satisfaction Dimensions with Organizational Outcomes and Organizational Commitment

Variable	Extra Effort	Effectiveness	Satisfaction with Leadership	JSS total	OCQ total
Organizational Culture					
Clan Culture	.105	-.011	.099	.211*	.147
Adhocracy Culture	.022	.092	.111	.187	.178
Market Culture	-.141	-.044	-.130	-.175	-.186
Hierarchy Culture	.053	-.022	-.055	-.212*	-.106
Leadership Characteristics					
Idealized Influence – attributes	.523**	.562**	.589**	.168	.176
Idealized Influence – behaviors	.630**	.598**	.657**	.266**	.428**
Inspirational Motivation	.696**	.709**	.696**	.326**	.434**
Intellectual Stimulation	.435**	.500**	.537**	.256*	.335**
Individualized Consideration	.660**	.672**	.677**	.322**	.316**
MLQ – Contingent Reward	.629**	.620**	.716**	.300**	.489**
Management by exception – active	.429**	.487**	.438**	.142	.131
Management by exception – passive	-.005	-.055	-.036	-.331**	-.313**
Laissez–faire Leadership	-.170	-.102	-.184	-.229*	-.153
Job Satisfaction					
Pay	.161	.160	.152	.714**	.269**
Promotion	.175	.180	.146	.176	.118
Supervision	.180	.152	.233*	.737**	.275**
Fringe Benefits	.081	.092	.133	.592**	.372**
JSS – Contingent Rewards	.093	.056	.033	.487**	.227*
Operating Conditions	.022	.042	.043	.587**	.410**
Coworkers	.313**	.290**	.374**	.753**	.516**
Nature of Work	.389**	.444**	.438**	.450**	.431**
Communication	.257**	.259**	.284**	.703**	.456**

Note. OCAI = Organizational Culture Assessment Instrument; MLQ = Multifactor Leadership Questionnaire; JSS = Job Satisfaction Survey; OCQ = Organizational Commitment Questionnaire.

*$p < .05$; **p < .01.

Discussion

Organizational commitment is widely recognized as an important indicator of workforce stability because it reflects nurses' psychological attachment to their organization and their willingness to remain engaged in achieving organizational goals (Nguyen *et al*., 2023; Deligöz, 2024). Understanding the organizational factors associated with nurses' commitment is particularly important in private hospitals, where maintaining a stable and motivated nursing workforce is essential for sustaining healthcare quality. In this current study, leadership characteristics were independently associated with organizational commitment after adjustment for organizational culture, job satisfaction, and demographic characteristics. This finding is consistent with previous evidence indicating that supportive leadership is associated with stronger organizational commitment, greater work engagement, higher job satisfaction, and improved retention among nurses (Specchia *et al.*, 2021; Niinihuhta & Häggman-Laitila, 2022; Hult *et al*., 2023). According to Full Range Leadership Theory, transformational leadership strengthens employees' organizational

identification by providing vision, intellectual stimulation, individualized support, and motivation (Avolio & Bass, 2004; Sahid *et al*., 2023). In the present study, the overall MLQ score remained significantly associated with organizational commitment after adjustment for organizational culture, communication satisfaction, and demographic characteristics, suggesting that nurses who reported more favorable perceptions of leadership also tended to report stronger organizational commitment. However, because the multivariable analysis included the overall MLQ score rather than individual leadership dimensions, the findings should not be interpreted as evidence that specific leadership behaviors independently influence organizational commitment. Furthermore, the cross-sectional design precludes conclusions regarding causality, and it is equally plausible that nurses with stronger organizational commitment perceive leadership more positively.

Table 4. Multiple Linear Regression Predicting Organizational Commitment among Nurses

Predictor	B	SE	β	95% CI for B	t	p	Tolerance	VIF
Constant	9.887	25.687	-	−41.136, 60.910	0.385	.701	-	
Gender	0.136	1.433	.008	−2.711, 2.983	0.095	.924	.950	1.053
Educational Level	-1.049	1.301	-.073	−3.634, 1.536	-0.806	.422	.878	1.139
Length of Employment	0.881	1.293	.060	−1.687, 3.449	0.681	.497	.948	1.055
OCAI – Clan Culture	0.586	0.383	.138	−0.175, 1.348	1.529	.130	.893	1.120
OCAI – Adhocracy culture	0.633	0.485	.130	−0.331, 1.597	1.304	.196	.734	1.363
OCAI – Hierarchy Culture	-0.009	0.505	-.002	−1.013, 0.995	-0.018	.986	.821	1.218
MLQ Total	4.012	1.224	.292	1.582, 6.443	3.279	.001	.922	1.085
Communication (JSS)	0.821	0.194	.372	0.436, 1.206	4.237	<.001	.945	1.058

Model summary: $R^2 = .337$; Adjusted $R^2 = .278$; $F(8,91) = 5.774$, $p < .001$; Durbin–Watson = 1.728.

Note. Dependent variable: Organizational Commitment Questionnaire (OCQ) total score. OCAI = Organizational Culture Assessment Instrument; MLQ = Multifactor Leadership Questionnaire; JSS = Job Satisfaction Survey. The market culture dimension was excluded because of severe multicollinearity (Tolerance = 8.61×10^{-6}; VIF = 116,212.28).

Communication satisfaction was also independently associated with organizational commitment after adjustment for organizational culture, leadership characteristics, and demographic variables in this current study. Among the variables retained in the regression model, communication satisfaction demonstrated the largest standardized regression coefficient, suggesting that nurses who reported greater satisfaction with workplace communication also tended to report stronger organizational commitment. Effective communication facilitates teamwork, coordination, information exchange, conflict resolution, and trust within healthcare organizations and has been associated with improved job satisfaction and organizational outcomes among nurses (Jankelová & Joniaková, 2021). Communication may strengthen nurses' perceptions of organizational support by promoting transparency, collaboration, and shared understanding within the workplace. However, because communication satisfaction and organizational commitment were measured

simultaneously using self-reported questionnaires, the observed relationship should be interpreted as a statistical association rather than evidence of a causal effect. It is also possible that nurses with stronger organizational commitment perceive workplace communication more positively. Furthermore, although communication emerged as an independent correlate in the present study, the regression model was exploratory and based on a relatively small sample. Therefore, replication using larger multicenter and longitudinal studies is needed to confirm the stability and direction of this association.

This study found that several leadership characteristics and job satisfaction domains also demonstrated significant positive bivariate correlations with organizational commitment. Transformational leadership dimensions, including idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, as well as transactional leadership through contingent reward, were positively correlated with organizational commitment. These findings are consistent with previous studies indicating that supportive leadership is associated with greater work engagement, higher job satisfaction, and stronger organizational commitment among nurses (Specchia *et al*., 2021; Niinihuhta & Häggman-Laitila, 2022; Hult *et al*., 2023). Conversely, passive management-by-exception demonstrated a negative correlation with organizational commitment, supporting evidence that passive leadership behaviors may reduce trust, psychological support, and positive workplace experiences (Al-Rjoub *et al*., 2025; Specchia *et al*., 2021). Several job satisfaction domains, including communication, coworkers, nature of work, operating conditions, pay, supervision, fringe benefits, and contingent rewards, were also positively correlated with organizational commitment. These findings are consistent with Spector's conceptualization of job satisfaction as employees' evaluations of different aspects of their work environment and with previous studies reporting positive associations between job satisfaction, retention, and organizational commitment among nurses (Spector, 1985; Jankelová & Joniaková, 2021; AbdELhay *et al*., 2025). However, because these findings were derived from bivariate correlation analyses using cross-sectional self-reported data, they should be interpreted as statistical associations rather than evidence of causal relationships, and the observed correlations may reflect shared perceptions of the organizational work environment rather than direct effects.

Finally, the findings show that hierarchy culture had the highest mean score, although the difference from clan culture was minimal, and none of the organizational culture dimensions demonstrated independent associations with organizational commitment after adjustment for leadership characteristics, communication satisfaction, and demographic variables. This finding should be interpreted cautiously. The OCAI measures organizational culture through employees' individual perceptions, whereas organizational culture may function as a collective organizational characteristic operating at the hospital or unit level. Consequently, individual-level regression analysis may not fully capture the influence of organizational culture on nurses' organizational commitment. The similarly high scores for hierarchy and clan cultures suggest that respondents perceived characteristics of both organizational cultures to a comparable extent rather than identifying a clearly dominant organizational culture. This observation is consistent with the Competing Values Framework, which recognizes that healthcare organizations often require both formal organizational structures and collaborative professional practice to deliver safe and effective patient care (Boyd & Larson, 2023; Cameron & Quinn, 2011). Therefore, although organizational culture may provide an important organizational context, its relationship with organizational commitment may be indirect or may operate through other organizational processes, such as leadership and workplace communication, which warrant further investigation using longitudinal and multilevel study designs.

Overall, the present findings suggest that nurses' perceptions of leadership and workplace communication were more closely associated with organizational commitment than perceived organizational culture in this sample. Although leadership characteristics and communication

satisfaction remained independently associated with organizational commitment after adjustment for other study variables, the analyses did not examine mediation, moderation, or other causal pathways. Furthermore, organizational culture, leadership characteristics, job satisfaction, and organizational commitment were measured simultaneously using self-reported questionnaires, limiting conclusions regarding the direction of these relationships. Therefore, the findings should be interpreted as independent statistical associations rather than evidence of causal or interactive relationships among these organizational factors. Future studies employing longitudinal designs, multilevel analyses, or structural equation modeling are needed to clarify the temporal and organizational mechanisms linking organizational culture, leadership, job satisfaction, and organizational commitment.

From a nursing management perspective, the present findings identify leadership and organizational communication as potentially important areas for future organizational interventions. Supportive leadership practices and effective workplace communication may contribute to a more positive organizational environment in which nurses report stronger organizational commitment. However, because intervention strategies were not evaluated in this study and the cross-sectional design precludes causal inference, these implications should be considered hypotheses for future implementation research rather than direct evidence-based recommendations. Experimental and longitudinal studies are needed to determine whether strengthening leadership competencies and improving organizational communication lead to meaningful improvements in nurses' organizational commitment.

This study has several limitations. First, the cross-sectional design precludes conclusions regarding causal relationships or the temporal ordering among organizational culture, leadership characteristics, job satisfaction, and organizational commitment. Second, participants were recruited using purposive sampling from three accredited private hospitals in Jakarta. Although the response rate was relatively high (92.6%), the findings may not be generalizable to public hospitals or other healthcare settings. Third, although the sample size met the recommended minimum requirements for multiple linear regression and regression assumptions were evaluated before analysis, the relatively small sample in relation to the number of explanatory variables may have limited model stability and statistical power. Accordingly, the regression findings should be interpreted as exploratory. Fourth, all variables were measured using self-administered questionnaires collected at a single time point, which may have introduced common-method bias and social desirability bias. Fifth, multiple bivariate correlations were examined without adjustment for multiple comparisons; therefore, some statistically significant findings may represent Type I error and should be interpreted cautiously. Sixth, several potentially important confounding variables, including age, ward type, workload, employment status, and hospital-level characteristics, were not available for adjustment. Seventh, organizational culture was measured using individual perceptions rather than organizational-level assessments, and multilevel analyses were not performed despite the inclusion of nurses from three hospitals. Finally, the present study used the overall MLQ score to represent nurses' perceptions of leadership characteristics. Although this approach reduced model complexity and minimized the risk of overfitting given the available sample size, it may have obscured potentially different associations of transformational, transactional, and passive leadership styles with organizational commitment. Future studies should recruit larger and more diverse samples, incorporate additional organizational and individual characteristics, report hospital-level organizational measures, and employ longitudinal, multilevel, or structural equation modeling approaches to clarify the relationships among these organizational factors. In addition, future research should examine the separate contributions of transformational, transactional, and passive leadership styles to organizational commitment.

Conclusion

This study provides preliminary evidence that nurses' perceptions of overall leadership characteristics and communication satisfaction were positively associated with organizational commitment among nurses working in private hospitals in Indonesia. Although several leadership dimensions demonstrated positive bivariate associations with organizational commitment, only overall leadership characteristics and communication satisfaction remained significantly associated in the multivariable analysis. Organizational culture dimensions were not independently associated with organizational commitment after adjustment, although their influence may operate through broader organizational processes that were not examined in the present study. Because of the cross-sectional design, relatively small sample, and self-reported measures, these findings should be interpreted as preliminary associations rather than causal relationships. Larger multicenter longitudinal studies are warranted to confirm these findings and evaluate whether interventions targeting leadership and organizational communication can strengthen organizational commitment among nurses.

Acknowledgment

The authors gratefully acknowledge Universitas Muhammadiyah Jakarta for supporting this study through the Internal Research Grant Program (Rector's Decree No. 750 of 2025). We sincerely thank the management of the participating private hospitals and all registered nurses who generously contributed their time and participated in this study. We also appreciate the assistance provided by colleagues, research assistants, and administrative staff during the implementation of this research.

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