THE MEDIATING EFFECT OF WORK MOTIVATION ON THE RELATIONSHIP OF NURSE MANAGER LEADERSHIP STYLES AND STAFF NURSES' PERFORMANCE IN SELECTED PRIVATE HOSPITALS IN MIDSAYAP, COTABATO

CHARLENE T. RANDING, RN
Master of Arts in Nursing, Major in Clinical Management
Davao Doctors College, Inc., Davao City, Philippines
charleneranding@gmail.com

Abstract: This study aimed to determine the mediating effect of work motivation on the relationship between nurse manager leadership styles and staff nurses' performance in selected private hospitals in Midsayap, Cotabato. A quantitative, non-experimental, predictive-correlational design with mediation analysis was employed among 300 regularly employed registered staff nurses selected through convenience sampling. Data were collected using adopted questionnaires and analyzed using descriptive statistics, Spearman's rank correlation, and mediation analysis. Transformational and laissez-faire leadership obtained equal mean scores (M = 3.84), followed by transactional leadership (M = 3.81). Work motivation was high (M = 5.70), with introjected regulation scoring highest (M = 6.68) and amotivation lowest (M = 1.31). Staff nurses' performance was outstanding (M = 4.65), with problem-solving obtaining the highest mean (M = 4.67). Most correlations were nonsignificant, although transactional leadership showed a very weak positive relationship with problem-solving performance (r_s = .117, p < .05). Mediation analysis revealed that transactional leadership significantly predicted work motivation (β = .2822, p < .001), whereas work motivation did not significantly predict performance (β = .00666, p = .911). All indirect effects were nonsignificant, providing no evidence that work motivation mediated the relationship between leadership styles and nurses' performance. Healthcare institutions should sustain leadership development and staff-support initiatives while examining other organizational factors associated with nurses' performance.

Index Terms **- Nurse Manager Leadership Styles, Work Motivation, Staff Nurses' Performance, Mediation Analysis, Predictive-Correlational, Midsayap, Cotabato,**

INTRODUCTION

Nursing performance fundamentally determines healthcare quality, patient safety, and effective service delivery. Healthcare systems worldwide face persistent challenges: leadership practices vary widely, and the mechanisms through which they translate into better performance remain poorly understood. Leaders often assume their style directly drives results, yet evidence suggests an internal motivational link may be missing. Without understanding this connection, leadership development and staff management strategies remain based on assumptions rather than confirmed mechanisms, risking misdirected efforts and suboptimal care.

Internationally, nurse manager leadership styles are associated with staff nurses' performance, although findings vary across settings. Qtait (2023) reviewed evidence linking head nurse leadership styles to nursing performance and highlighted the importance of effective leadership in nursing practice. Transformational leadership has received considerable attention in healthcare research, alongside authentic and ethical leadership (Wu et al., 2024). However, the effects of laissez-faire and transactional leadership should be interpreted according to the specific outcomes and contexts examined. These findings support further investigation of how leadership styles relate to staff nurses' performance in different hospital settings.

In the Philippines, private hospitals have examined leadership's relationship to nurses' job satisfaction and performance. Gamil and Cunanan (2025) identified leadership skills, staffing and resources, participation in hospital affairs, and work relationships as significant predictors of job satisfaction among nurses in Cagayan de Oro City. Dominguez (2025) also reported a positive association between leadership styles and self-reported work performance in a private hospital in Laguna. However, these studies did not test work motivation as a mediator between leadership styles and staff nurses' performance.

In Midsayap, Cotabato, Baslot and Coronado (2025) reported moderate turnover intention among 123 nurses in five private hospitals and significant associations with selected leadership dimensions. However, their study did not examine staff performance or work motivation as a mediator. This study addresses this gap by examining whether work motivation mediates the relationship between nurse manager leadership styles and staff nurses' performance in selected private hospitals in the municipality.

Previous studies examined intrinsic motivation as a mediator internationally (Alsadaan et al., 2025), leadership and performance in the Philippines (Dominguez, 2025), and leadership and turnover intention in Midsayap (Baslot & Coronado, 2025). However, it remains unclear whether broader work motivation mediates the relationships between transformational, transactional, and laissez-faire leadership styles and nurses' performance in Midsayap's private hospitals.

RESEARCH METHODOLOGY

Research Design

This study utilized a quantitative, non-experimental, predictive-correlational design with mediation analysis to examine the relationships among nurse manager leadership styles, work motivation, and staff nurses' performance. This design allowed the researcher to examine the variables in their existing hospital context without interventions or condition manipulation.

The study used a cross-sectional approach, collecting data from qualified staff nurses over a defined period. The predictive-correlational design enabled the assessment of the direction and strength of associations among the variables and their statistical predictive relationships.

Mediation analysis examined whether work motivation statistically mediated the relationship between nurse manager leadership styles and staff nurses' performance. The model included Path A, linking leadership styles to work motivation; Path B, linking work motivation to performance while accounting for leadership styles; and the indirect pathway through work motivation. In standard mediation notation, Path C' represents the total relationship between leadership styles and performance, whereas Path C′ represents their direct relationship after accounting for work motivation.

Given the study non-experimental, cross-sectional design, the findings were interpreted as statistical associations rather than evidence of causation.

Settings and Participants

The study was conducted in selected private hospitals in Midsayap, Cotabato, within the First District of Cotabato Province, Region XII, Mindanao, Philippines.

Midsayap serves as a commercial and healthcare center for residents of the municipality and neighboring communities. The selected hospitals provided a suitable setting for examine nurse managers' leadership styles, work motivation, and staff nurses' performance. Within these institutions, nurse managers supervise staff nurses, provide direction, and coordinate nursing services.

Midsayap was selected to address the need for context-specific evidence on the relationships among these variables in local private hospitals. Examining these relationships may provide insights relevant to leadership development, staff support, and nursing management practices in the participating institutions.

Participants and Sampling

The study included 300 registered nurses regularly employed as staff nurses in selected private hospitals in Midsayap, Cotabato. Their direct experience with their nurse managers' leadership behaviors enabled them to provide relevant information about perceived leadership styles, their work motivation, and their professional performance.

This study used convenience sampling to recruit eligible nurses who were available and willing to participate during data collection. This non-probability sampling technique selects participants based on their accessibility to the researcher (Stratton, 2023). It accommodated nurses' varying duty schedules and hospital operational demands; however, its potential for selection bias limits the generalizability of the findings.

The study included registered nurses in regular staff positions with at least one year of continuous hospital service. The study excluded nurse managers, supervisors, and head nurses because it focused on staff nurses' perceptions of managerial leadership. Other exclusions included contractual, part-time, and reliever nurses; nurses with less than one year of service; and those on extended leave or secondment during data collection.

Research Instruments

This study used a four-part questionnaire. The first section gathered respondent's demographic profile, while the succeeding sections measured nurse manager leadership styles, work motivation, and staff nurses' performance. The questionnaire consisted of 80 items in total. Nursing management experts validated all instruments for content prior to administration.

The first section was a simple profile form designed for this study, which respondents shared basic information about themselves, including age, sex, civil status, highest educational attainment, years of service, and employment status. These details help paint a clear picture of who took part in the study and ensure we understand the people behind the responses.

The second part measured nurse manager leadership styles. This section used an instrument adopted from J. Wisley Journal (2025). It consists of 21 items that measure the three leadership styles: transformational leadership, transactional leadership, and laissez-faire leadership. Respondents rated each statement on a 5-point frequency scale ranging from 0 to 4. Pilot testing showed good internal consistency, with a Cronbach's alpha of .87 and McDonald's omega of .89, indicating that the instrument reliably measured nurse manager leadership styles.

The normality of the study variables was assessed using the Kolmogorov–Smirnov and Shapiro–Wilk tests. Both tests indicated significant departures from normality for transformational, transactional, and laissez-faire leadership styles and overall work motivation (all $p < .001$). Overall staff performance yielded conflicting results, with a nonsignificant Kolmogorov–Smirnov result ($p = .200$) and a significant Shapiro–Wilk result ($p = .038$). These findings supported using Spearman's rank correlation to examine associations among the study variables.

The third section assessed work motivation using the 18-item Work Extrinsic and Intrinsic Motivation Scale (WEIMS), developed by Tremblay et al. (2009). The instrument comprises six subscales intrinsic motivation, integrated regulation, identified regulation, introjected regulation, external regulation, and amotivation with three items per subscale. The items were adapted to reflect the context of nursing work. Responses were recorded on a 7-point scale ranging from 1 (Does not correspond at all) to 7 (Corresponds exactly). Higher scores indicated greater endorsement of the specific form of motivation measured by each subscale.

The fourth section assessed staff nurses' performance using a 38-item scale adapted from Kahya and Oral (2018). The instrument covered eight domains: contextual performance, professional skills, clinical skills, interpersonal communication, problem solving, professional ethics, teamwork, and leadership. Items were written as first-person statements for self-assessment in a nursing context. Responses were rated on a 5-point performance scale ranging from 1 (Needs Improvement) to 5 (Outstanding).

The Staff Nurses' Performance Scale showed excellent internal consistency in a pilot test with 30 participants. The 38-item instrument obtained an overall Cronbach's alpha of .990 and McDonald's omega of .990, suggesting that responses to the items were strongly related. These results are consistent with Stefana et al. (2025), who describe coefficients of .90 and above as excellent and recommend reporting both measures for a more complete assessment of internal consistency.

All eight domains also showed excellent internal consistency. Contextual Performance obtained $\alpha = .956$ and $\omega = .960$; Professional Skills, $\alpha = .971$ and $\omega = .971$; Clinical Skills, $\alpha = .973$ and $\omega = .973$; Interpersonal Communication, $\alpha = .955$ and $\omega = .966$; Problem Solving, $\alpha = .914$ and $\omega = .920$; Professional Ethics, $\alpha = .927$ and $\omega = .928$; Teamwork, $\alpha = .954$ and $\omega = .955$; and Leadership, $\alpha = .964$ and $\omega = .965$. Following the guidelines discussed by Stefana et al. (2025), these values suggest that the items within each domain worked consistently together. Clinical Skills had the highest coefficients and Problem Solving the lowest, although both remained excellent. These differences reflect score consistency rather nurses' performance.

The close agreement between alpha and omega further supports the internal consistency of the pilot scores. Stensen and Lydersen (2022) explain that omega complements alpha by accounting for differences in how individual items contribute to a scale. However, the exceptionally high overall values suggest reviewing the items for possible overlap and examining whether combining the eight domains into one overall score is appropriate. The findings provide encouraging preliminary evidence of reliability, but they do not establish validity. Reliability should also be assessed using the main study data.

Ethical Considerations

The study underwent a thorough review by the Ethics Review Committee at Davao Doctors College Inc. to ensure ethical standards are met. Participants were informed of the study's procedure, objectives, and benefits, with ample time for questions. Their data has been kept confidential, and participation will be voluntary with no coercion.

Social Value. The study sought to contribute local evidence regarding nurse manager leadership styles, work motivation, and staff nurses' performance. The findings may inform nursing management, leadership development, staff motivation, and performance improvement in selected private hospitals in Midsayap, Cotabato.

Risks and Benefits. Participation involved minimal risk because respondents completed a questionnaire about their professional experiences and perceptions. The study involved no physical or clinical intervention. The study did not involve procedures expected to cause physical harm to the participants.

Voluntary Participation. Participation in the study was voluntary. Respondents were informed about the study's purpose, procedures, and nature before completing the questionnaire. They were free to decline participation or withdraw from the study without penalty or adverse consequences.

Privacy and Confidentiality. The questionnaire did not require respondents to provide personally identifying information. Responses were treated confidentially and were used solely for research purposes. Completed questionnaires and research data were stored securely and were accessible only to authorized persons. Data handling and protection followed ethical requirements of the study protocol and applicable provisions of the Data Privacy Act of 2012.

Declaration of AI-Assisted Work. The researcher used generative artificial intelligence tools in a limited, clearly delineated capacity during the preparation of this study specifically for language editing, formatting assistance, and checking the clarity of statistical presentation. The researcher designed the study collected data, performed statistical analysis, interpreted the findings, and drew conclusions. The researcher takes full responsibility for the accuracy, originality, and integrity of the content of this study.

Data Disposal. The researcher stored all collected questionnaires, encoded data files, and statistical output securely and treated them as confidential throughout the study. Upon completion of the study and acceptance of the final manuscript, the researcher will shred physical questionnaires and permanently deleted electronic data files, consistent with the data retention and disposal provisions of the study protocol and the Data Privacy Act of 2012.

Data Collection Procedure

The following procedures were implemented to ensure an organized, systematic approach to the conduct of the study and to comply with established research and ethical standards.

The researcher secured the necessary approval and ethical clearance from the appropriate authorities of Davao Doctors College, Inc. before the conduct of data collection.

The researcher prepared and submitted formal letters of request to the administrators of the selected private hospitals in Midsayap, Cotabato, seeking permission to conduct the study and administer the research questionnaires to qualified staff nurses.

Upon obtaining the necessary institutional permissions and ethical approval, the researcher coordinated with the concerned hospital authorities and nursing service offices regarding the identification and recruitment of qualified respondents.

Qualified staff nurses were identified based on the established inclusion and exclusion criteria. Respondents were informed of the study's purpose, nature, procedures, voluntary participation, and confidentiality before they participated.

Informed consent was obtained from the respondents prior to the administration of the questionnaires. The researcher administered the questionnaires during appropriate periods to minimize interference with the respondents' regular nursing responsibilities.

The researcher collected the completed questionnaires and checked them for completeness. The researcher then organized the responses and prepared them for data encoding and statistical analysis.

The collected data were encoded and processed using IBM SPSS Statistics version 29 and JASP version 0.98.1. We conducted descriptive and correlational analyses according to the approved statistical treatment.

A professional statistician assisted in the statistical processing and interpretation of the data, particularly in the application of the appropriate statistical procedures for the study.

Statistical Analysis

The collected data were reviewed for completeness, coded, and analyzed using the following statistical tools:

Frequency and Percentage. These summarized the respondents' demographic profiles, including age, sex, civil status, highest educational attainment, length of service, and employment status.

Mean. Mean scores described nurse manager leadership styles, work motivation, and staff nurses' performance, along with their respective dimensions. The results were interpreted using each instrument's scoring guidelines.

Standard Deviation. This showed how closely respondents' scores clustered around the mean. A lower standard deviation indicated more similar responses, while a higher value indicated greater variation.

Reliability Analysis. Cronbach's alpha and McDonald's omega assessed the internal consistency of the Staff Nurses' Performance Scale during pilot testing.

Normality Tests. The Kolmogorov–Smirnov and Shapiro–Wilk tests examined whether the study variables' distributions differed significantly from a normal distribution. The findings helped guide the choice of statistical procedures.

Spearman's Rank-Order Correlation. This measured the strength and direction of the associations among nurse manager leadership styles, work motivation, and staff nurses' performance.

Mediation Analysis. This examined whether work motivation helped explain the statistical relationship between nurse manager leadership styles and staff nurses' performance. Path A represented the relationship between leadership styles and work motivation, while Path B represented the relationship between work motivation and performance after accounting for leadership styles. Path C represented the total relationship between leadership styles and performance, and Path C′ represented their direct relationship after accounting for work motivation. The indirect effect through work motivation was calculated by multiplying the coefficients for Paths A and B. Statistical significance was assessed at the .05 level. Given the study's non-experimental, cross-sectional design, the findings were interpreted as associations rather than evidence of cause-and-effect relationships.

Scope and Limitations

This study examined the mediating effect of work motivation on the relationship between nurse manager leadership styles and staff nurses' performance in selected private hospitals in Midsayap, Cotabato. The study included 300 regularly employed staff nurses who met the eligibility criteria, including at least one year of service. The study used a quantitative, non-experimental, predictive-correlational research design with mediation analysis.

The independent variable was nurse manager leadership styles, including transformational, transactional, and laissez-faire leadership. The mediating variable was work motivation, consisting of intrinsic motivation, integrated regulation, identified regulation, introjected regulation, external regulation, and amotivation. The dependent variable was staff nurses' performance, assessed across contextual performance, professional skills, clinical skills, interpersonal communication, problem solving, professional ethics, teamwork, and leadership.

However, the study was limited to selected private hospitals in Midsayap, Cotabato, which limits the generalizability of the findings to public hospitals, other healthcare institutions or different geographical settings. Convenience sampling may also limit the representativeness of the respondents. Furthermore, the cross-sectional design examined variables at a single point in time and therefore does not establish causal relationships.

The study also relied on self-report questionnaires, which may have been influenced by response bias, social desirability, or the respondents' subjective interpretation of the items. In addition, the study focused only on nurse manager leadership styles, work motivation, and staff nurses' performance; other factors that may be associated with nurses' performance, such as workload, staffing adequacy, organizational support, job satisfaction, burnout, compensation, professional development, and organizational culture, were not examined.

The study was further delimited to regularly employed staff nurses with at least one year of service. Nurse managers, supervisors, head nurses, contractual and part-time nurses, relievers, and nurses on extended leave were excluded. Consequently, the findings may not reflect the experiences of nurses with different employment arrangements, shorter service periods, or managerial responsibilities.

Furthermore, leadership styles were assessed through staff nurses' perceptions, while nursing performance was measured through self-reported assessments rather than direct observation, supervisor evaluations, or patient outcomes. Thus, the findings reflect respondents' reported experiences and perceived performance and should be interpreted within these measurement boundaries. Future research may incorporate multiple sources of assessment to provide a more comprehensive understanding of nursing performance.

Despite this, the study provides local empirical evidence regarding the relationships among nurse manager leadership styles, work motivation, and staff nurses' performance. It provides a basis for further research examining other factors that may contribute to nurses' performance in private hospital settings.

RESULTS AND DISCUSSION

Leadership styles of nurse managers

Table 1. Leadership styles of nurse managers

Leadership Style	Mean	SD
Transformational Leadership	3.84	0.133
Transactional Leadership	3.81	0.191
Laissez-faire Leadership	3.84	0.240

Note: 0.00-0.80=Not at all; 0.81-1.60=Once in a while; 1.61-2.40=Sometimes; 2.41-3.20=fairly often; 3.21-4.00=frequently, if not always.

Table 1 shows that all three leadership styles were perceived as practiced "frequently, if not always." Transformational and laissez-faire leadership obtained equally high means (M = 3.84), followed closely by transactional leadership (M = 3.81). The small difference of 0.03 indicates similar reported frequencies; it does not establish a statistically significant difference. The low standard deviations suggest closely grouped ratings, with transformational leadership showing the greatest agreement (SD = 0.133) and laissez-faire leadership showing comparatively greater variation (SD = 0.240).

The high transformational leadership score suggests that respondents frequently perceived behaviors associated with inspiring staff, providing individualized support, and encouraging new approaches to work, assuming these behaviors were represented in the questionnaire. This interpretation relates to transformational leadership theory, which emphasizes idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Ystaas et al. (2023) discussed these components and identified favorable relationships between transformational leadership, nurses' work environments, empowerment, and job satisfaction. These findings provide context for the present result, although Table 1 alone does not demonstrate improved staff performance.

Transactional leadership was also frequently perceived (M = 3.81, SD = 0.191). Within the full-range leadership framework, this style emphasizes exchanges between leaders and followers, including clear expectations, contingent rewards, and corrective action. Its high score may therefore reflect frequent task monitoring and reinforcement of work standards, depending on the questionnaire items. Hult et al. (2023) distinguished task-oriented from relational leadership approaches and showed that leadership styles are associated different with nursing outcomes. Thus, interpret frequent transactional leadership as a pattern of reported behavior rather than evidence of effectiveness.

The equally high laissez-faire score requires careful interpretation. In conventional leadership theory, laissez-faire leadership involves avoiding decisions or limiting involvement when leadership is needed; it should not automatically be interpreted as appropriate delegation or staff empowerment. Alluhaybi et al. (2023) reported that laissez-faire and passive-avoidant leadership were negatively associated with nurses' work engagement in the studies examining these styles. Consequently, its high frequency in this study may indicate perceived gaps in managerial involvement, if the questionnaire measured conventional laissez-faire behaviors.

Overall, respondents reported similarly frequent transformational, transactional, and laissez-faire behaviors, suggesting a mixed leadership pattern at the sample level. However, the aggregate scores do not show that every manager demonstrated all three styles.

Work motivation among staff nurses

Table 2. Work motivation among staff nurses

Leadership Style	Mean	SD
Integrated Motivation	6.65	0.39
Internal Motivation	6.62	0.378
Identified Motivation	6.67	0.357
Introjected Motivation	6.68	0.373
External Motivation	6.64	0.396
*Amotivation	1.31	0.341
Overall Work Motivation	5.70	0.185

Note:1.00-2.33=Very Low; 2.34-3.49=Low; 3.50-4.66=Moderate; 4.67-5.83=High; 5.84-7.00=Very High; *Reverse Coded.

Table 2 shows that staff nurses had high overall work motivation (M = 5.70, SD = 0.185), based on the reported scoring. All five motivation dimensions were rated very high. Introjected motivation recorded the highest mean (M = 6.68, SD = 0.373), followed by identified motivation (M = 6.67, SD = 0.357), integrated motivation (M = 6.65, SD = 0.390), external motivation (M = 6.64, SD = 0.396), and internal motivation (M = 6.62, SD = 0.378). The small standard deviations indicate limited variation in respondents' ratings.

Self-Determination Theory may explain these findings which recognizes that individuals work for both autonomous and controlled reasons. High integrated and identified motivation suggest that nurses view their responsibilities as meaningful and consistent with their personal values. If internal motivation is equivalent to intrinsic motivation in the questionnaire, it reflects satisfaction and enjoyment in performing nursing duties. Meanwhile, high introjected and external motivation suggest that self-imposed expectations, recognition, rewards, and other external influences may also encourage their work. Thus, respondents appear to draw motivation from several sources rather than a single reason. Holtan et al. (2024) similarly distinguished autonomous from controlled motivation and identified positive pathways connecting autonomy-supportive leadership, psychological need satisfaction, autonomous motivation, and nurses' performance and well-being. These relationships provide context for the findings but are not established by the descriptive results alone.

Amotivation obtained a mean of 1.31 (SD = 0.341), which falls within the very low category when interpreted in its original direction. This would suggest that respondents seldom experienced a lack of purpose or motivation at work. However,

because the table labels amotivation as reverse-coded, verify its scoring before concluding that it represents very low amotivation or confirming the overall mean**.** The interpretation above preserves the reported results without assuming that the reverse coding has been correctly applied.

Staff nurses' performance

Table 3. Staff nurses' performance

Leadership Style	Mean	SD
Contextual	4.66	0.155
Professional Skills	4.66	0.276
Clinical Skills	4.66	0.211
Interpersonal Communication	4.66	0.32
Problem Solving	4.67	0.33
Professional Ethics	4.65	0.329
Teamwork	4.63	0.298
Leadership	4.65	0.294
Overall Staff Performance	4.65	0.107

Note:1.00-1.80=Needs Improvement; 1.81-2.60=Developing; 2.61-3.40=Satisfactory; 3.41-4.20=Very Satisfactory; 4.21-5.00=Outstanding.

Table 3 shows outstanding overall among staff nurses' performance (M = 4.65, SD = 0.107), with all eight dimensions classified as outstanding. Problem solving obtained the highest mean (M = 4.67, SD = 0.330), followed by contextual performance (M = 4.66, SD = 0.155), professional skills (M = 4.66, SD = 0.276), clinical skills (M = 4.66, SD = 0.211), and interpersonal communication (M = 4.66, SD = 0.320). Professional ethics (M = 4.65, SD = 0.329) and leadership (M = 4.65, SD = 0.294) likewise received outstanding ratings. Teamwork recorded the lowest mean (M = 4.63, SD = 0.298), but remained within the outstanding category.

The closely grouped means indicate similarly favorable assessments across the performance dimensions. The relatively low standard deviations suggest limited variation in respondents' ratings, particularly in contextual performance. Although problem solving ranked highest and teamwork ranked lowest, these small numerical differences are not statistically significant and do not indicate meaningful weaknesses. The findings reflect questionnaire- based performance rather than independently verified clinical outcomes.

Self-Determination Theory may help explain these results which emphasizes autonomy, competence, and relatedness as psychological needs that support autonomous motivation and effective functioning. Professional skills, clinical skills, and problem-solving conceptually relate to competence, while interpersonal communication and teamwork involve supportive relationships with others. Holtan et al. (2024) identified positive motivational pathways linking autonomy-supportive leadership, psychological need satisfaction, autonomous motivation, and nurses' performance and well-being. Their findings provide a theoretical context for understanding effective nursing performance, although the present descriptive results do not establish these relationships.

The outstanding teamwork rating suggests favorable assessments of nurses' collaboration and shared work responsibilities. Despite its lowest mean, teamwork should be seen as a strength to sustain through clear communication, mutual assistance, and coordinated care. Supporting this Nobahar et al. (2023) found that stronger teamwork among intensive care nurses was significantly associated with fewer missed nursing care ($r = -0.44$, $p < .001$). This evidence highlights the relevance of collaboration to nursing care delivery, but the current teamwork score alone does not demonstrate that missed care was reduced.

Relationship between leadership styles and work motivation

Table 4. Relationship between leadership styles and work motivation

Leadership Style	Integrated	Identified	Introjected	External	Amotivation	Intrinsic	Decision	Remarks
Transformational Leadership	0.020	0.084	-0.006	0.062	0.007	-0.037	Accept Ho1	Not Significant
Transactional Leadership	0.098	-0.003	0.021	-0.105	0.027	-0.083	Reject Ho1	Not Significant
Laissez-faire Leadership	-0.002	0.023	-0.009	0.015	0.011	-0.888	Reject Ho1	Not Significant

Note: *Only the r_s value was reported.* Spearman Correlation is significant at the *0.05 level and **0.01 level (2-tailed)

The table shows that most relationships between nurse manager leadership styles and staff nurses' work motivation were negligible, as reflected by correlation coefficients close to zero. Transformational leadership had negligible positive associations with integrated (r_s = 0.020), identified (r_s = 0.084), external motivation (r_s = 0.062), and amotivation (r_s = 0.007). Its associations with introjected (r_s = −0.006) and intrinsic motivation (r_s = −0.037) were negligible and negative.

Similarly, transactional leadership showed negligible associations with integrated (r_s = 0.098), identified (r_s = −0.003), introjected (r_s = 0.021), amotivation (r_s = 0.027), and intrinsic motivation (r_s = −0.083). A weak negative relationship was observed with external motivation (r_s = −0.105). These coefficients suggest limited associations between transactional leadership and the measured dimensions of motivation.

Laissez-faire leadership also showed negligible relationships with integrated (r_s = −0.002), identified (r_s = 0.023), introjected (r_s = −0.009), external motivation (r_s = 0.015), and amotivation (r_s = 0.011). However, its relationship with intrinsic motivation was strong and negative (r_s = −0.888). If reported correctly, this indicates that higher laissez-faire leadership scores were associated with lower intrinsic motivation, but it does not establish causation.

These findings may be interpreted through Self-Determination Theory, which emphasizes autonomy, competence, and relatedness as foundations of autonomous motivation. Holtan et al. (2024) identified positive pathways connecting autonomy-supportive leadership, psychological need satisfaction, and autonomous motivation among nurses. Although autonomy-supportive and transformational leadership are distinct constructs, the near-zero transformational leadership coefficients in this study offer limited support for the anticipated positive association with motivation. They do not, however, invalidate the theory.

The negative relationship between laissez-faire leadership and intrinsic motivation is compatible with the theoretical concern that insufficient managerial involvement may limit support for nurses' psychological needs. Related evidence from Alluhaybi et al. (2023) showed negative associations between laissez-faire leadership and nurses' work engagement. While engagement differs from intrinsic motivation, this finding provides context for the negative association observed in the present study.

Interpretation note**:** Statistical significance cannot be determined because the table does not provide exact *p*-values or identify significant coefficients.

Verify the value −0.888 against the original output, and confirm the coding direction of amotivation before finalizing the discussion.

Relationship between work motivation and performance

Table 5. Relationship between work motivation and performance

Variables	Contextual	Prof. Skills	Clinical Skills	Interpersonal Comm.	Problem-Solving	Prof. Ethics	Teamwork	Leadership	Overall Performance	Decision	Remarks
Overall Work Motivation	.021	.045	.053	.015	−.048	−.089	.032	.124*	−.005	Accept Ho2	NS
Integrated Motivation	−.016	−.059	.049	.001	−.072	−.033	.055	−.010	.054	Reject Ho2	S
Identified Motivation	−.036	.012	−.018	.006	−.082	.017	−.044	.105	−.060	Accept Ho2	NS
Introjected Motivation	−.023	.012	.021	.017	−.012	−.049	.002	.035	−.027	Accept Ho2	NS
External Motivation	.117*	−.005	.093	.034	.021	−.031	.087	.094	.021	Accept Ho2	S
Amotivation	.060	.119*	.058	−.013	.035	−.059	.035	.028	−.023	Reject Ho2	S
Intrinsic Motivation	.100	.001	−.015	.016	.053	.071	.162*	.059	.059	Reject Ho2	S

***Note*:** Only r_s are reported. P<.05*; Spearman correlation is significant at the 0.05 level and **0.01 level (2-tailed)

Table 5 shows a negligible negative relationship between staff nurses' overall work motivation and overall performance (r_s = −0.005). This indicates that higher motivation scores were not consistently associated with higher or lower overall performance. Most coefficients were similarly close to zero, reflecting limited relationships between the motivation and performance dimensions.

Four relationships were identified as statistically significant, assuming the asterisk indicates significance at the 0.05 level. Overall work motivation was weakly and positively associated with leadership performance (r_s = 0.124), while external motivation was weakly associated with contextual performance (r_s = 0.117). Positive associations were also observed between amotivation and professional skills (r_s = 0.119) and between intrinsic motivation and teamwork (r_s = 0.162). Although marked as significant, these relationships were small and do not establish causation.

Integrated, identified, and introjected motivation had no marked significant associations with any performance dimension. Their relationships with overall performance were negligible: integrated motivation (r_s = 0.054), identified motivation (r_s = −0.060), and introjected motivation (r_s = −0.027). Likewise, external motivation (r_s = 0.021), amotivation (r_s = −0.023), and intrinsic motivation (r_s = 0.059) showed negligible associations with overall performance. These results suggest that motivation was associated with selected aspects of nursing performance rather than overall performance.

Self-Determination Theory may help explain this finding by distinguishes autonomous motivation, grounded in enjoyment and personal values, from controlled motivation, driven by rewards, expectations, or internal pressure. Holtan et al. (2024) identified positive pathways linking autonomy-supportive leadership, psychological need satisfaction, autonomous motivation, and nurses' performance and well-being. However, the present study found little association between the dimensions of autonomous motivation and overall performance. This provides limited support for the anticipated relationship in this sample without invalidating the theory.

The positive association between intrinsic motivation and teamwork (r_s = 0.162) suggests that nurses who enjoy and find satisfaction in their work also tend to report slightly stronger collaboration. This is compatible with the theory's emphasis on relatedness, although the direction of influence remains uncertain. Nobahar et al. (2023) found that stronger teamwork among intensive care nurses was associated with less

missed nursing care. Their findings highlight the importance of collaboration, but do not directly establish a relationship between intrinsic motivation and teamwork.

External motivation's association with contextual performance (r_s = 0.117) indicates that external incentives or expectations may accompany behaviors that support the organizational environment. Similarly, the positive relationship between overall motivation and leadership performance (r_s = 0.124) suggests a slight tendency for higher motivation scores to accompany higher leadership ratings. Neither finding indicates that higher motivation leads to better performance.

The positive correlation between amotivation and professional skills (r_s = 0.119) requires confirmation of the scoring direction. If amotivation was reverse-coded, higher scores would represent less amotivation, suggesting that lower motivational disengagement was associated with slightly better professional skills. If the scores were not reverse-coded, the result indicates that greater amotivation was associated with slightly higher professional skills ratings.

Relationship between leadership styles and performance

Table 6. Relationship between leadership styles and performance

Leadership Style	Contextual	Prof. Skills	Clinical Skills	Interpersonal Communication	Problem-Solving	Prof. Ethics	Teamwork	Leadership	Decision	Remarks
Transformational	.080	−.068	.079	.014	−.041	.048	−.025	.067	Accept Ho3	NS
Transactional	.058	−.005	−.062	.002	.117*	.015	−.030	.102	Reject Ho3 for problem solving	Significant for problem solving, Domain at NS
Laissez-faire	.030	.008	.034	−.012	−.015	.026	−.015	.034	Accept Ho3	NS

Note: Only the r_s values are reported. P<.05*; Spearman correlation is significant at the 0.05 level and **0.01 level (2-tailed)

Table 6 indicates that nurse manager leadership styles generally had negligible relationships with staff nurses' performance dimensions. Only transactional leadership's relationship with problem solving was statistically significant (r_s = 0.117, $p < .05$). This weak association suggests that only slightly higher problem-solving ratings accompanied more frequent transactional leadership behaviors.

Transformational leadership showed negligible positive relationships with contextual performance (r_s = 0.080), clinical skills (r_s = 0.079), interpersonal communication (r_s = 0.014), professional ethics (r_s = 0.048), and leadership performance (r_s = 0.067). Its relationships with professional skills (r_s = −0.068), problem solving (r_s = −0.041), and teamwork (r_s = −0.025) were negligible and negative. None were marked as statistically significant. These findings provide limited support for the expected associations of transformational leadership, which emphasizes inspiration, individualized support, and intellectual stimulation. Ystaas et al. (2023) described intellectual stimulation as encouraging staff to examine assumptions and develop alternative solutions, and identified favorable relationships between transformational leadership, nursing work environments, and patient outcomes. However, the present study did not demonstrate comparable significant associations with the measured performance dimensions.

Transactional leadership had negligible relationships with contextual performance (r_s = 0.058), professional skills (r_s = −0.005), clinical skills (r_s = −0.062), interpersonal communication (r_s = 0.002), professional ethics (r_s = 0.015), and teamwork (r_s = −0.030). Its relationship with leadership performance was weak and positive (r_s = 0.102), but not significant In contrast, its positive relationship with problem solving (r_s = 0.117) was marked as significant at the 0.05 level.

The problem-solving finding is compatible with transactional leadership theory, which emphasizes clear expectations, contingent rewards, performance monitoring, and corrective action. In nursing practice, these behaviors may provide structure for identifying concerns, applying established procedures, and evaluating solutions. This offers a possible theoretical explanation for the observed association, although the study did not directly test that mechanism. The small coefficient also means that the finding should not be interpreted as evidence that transactional leadership causes better problem solving or is superior to other leadership styles.

Laissez-faire leadership demonstrated negligible positive relationships with contextual performance (r_s = 0.030), professional skills (r_s = 0.008), clinical skills (r_s = 0.034), professional ethics (r_s = 0.026), and leadership performance (r_s = 0.034). Its relationships with interpersonal communication (r_s = −0.012), problem solving (r_s = −0.015), and teamwork (r_s = −0.015) were negligible and negative. None were marked as statistically significant. Thus, the table provides little evidence of an association between laissez-faire leadership and the assessed performance dimensions.

These findings differ from the broader pattern reported by Hult et al. (2023), whose review identified generally favorable associations between relational leadership, particularly transformational leadership, and organizational, staff, and patient outcomes. The present results suggest that these relationships were not consistently observed in this sample. Differences in context, measurement, and score variability are possible explanations, but were not tested. Consequently, the findings indicate limited observed associations rather than establishing that nurse manager leadership is unrelated to nursing performance in all settings.

Mediation Analysis on the Relationship Between Nurse Manager Leadership Styles and Staff Nurses' Performance

Table 7a. Direct effects

Direct effects

							95% Confidence Interval			
			B	SE	z	p	LB	UB	Decision	Remarks
Transformational Leadership style	→	Staff Performance	0.075	0.057	1.309	0.191	-0.037	0.188	Reject H_{04}	NS
Transactional Leadership Style	→	Staff Performance	0.044	0.057	0.769	0.442	-0.068	0.158	Reject H_{04}	NS
Laissez-faire Leadership Style	→	Staff Performance	0.043	0.059	0.728	0.466	-0.073	0.160	Reject H_{04}	NS

Note: Estimator is ML

Table 7b. Indirect effects

Indirect effects

									95% Confidence Interval			
					B	SE	z	p	Lower	Upper	Decision	Remarks
Transformational Leadership Style	→	Work Motivation	→	Staff Performance	1.688×10^{-4}	0.001	0.108	0.914	-0.002	0.003	Reject H_{04}	NS
Transactional Leadership Style	→	Work Motivation	→	Staff Performance	1.475×10^{-4}	0.001	0.107	0.915	-0.002	0.002	Reject H_{04}	NS
Laissez-faire Leadership Style	→	Work Motivation	→	Staff Performance	0.001879	0.017	0.111	0.911	-0.031	0.035	Reject H_{04}	NS

Note: Estimator is ML

Table 7c. Total effects

Total Effects

							95% Confidence Interval			
			B	SE	z	p	Lower	Upper	Decision	Remarks
Transformational Leadership Style	→	Staff Performance	0.075	0.057	1.312	0.189	-0.037	0.189	Reject H_{04}	NS
Transactional Leadership Style	→	Staff Performance	0.044	0.057	0.771	0.448	-0.068	0.158	Reject H_{04}	NS
Laissez-faire Leadership Style	→	Staff Performance	0.045	0.057	0.792	0.428	-0.066	0.157	Reject H_{04}	NS

Note: Estimator is ML

Table 7 shows no statistically significant evidence that work motivation mediated the relationship between nurse manager leadership styles and staff nurses' performance. All indirect-effect *p*-values exceeded .05, and their 95% confidence intervals included zero. The direct and total effects were also not statistically significant.

For the direct effects, transformational leadership had a small positive estimate (β = 0.075, SE = 0.057, *z* = 1.309, *p* = .191, 95% CI [−0.037, 0.188]). Transactional leadership (β = 0.044, SE = 0.057, *z* = 0.769, *p* = .442, 95% CI [−0.068, 0.158]) and laissez-faire leadership (β = 0.043, SE = 0.059, *z* = 0.728, *p* = .466, 95% CI [−0.073, 0.160]) likewise showed small positive estimates. These findings indicate insufficient evidence of direct associations with staff performance after accounting for work motivation in the fitted model.

The indirect effects through work motivation were close to zero and non-significant. Transformational leadership had an indirect estimate of 0.0001688 (SE = 0.001563, *z* = 0.108, *p* = .914, 95% CI [−0.002894, 0.003232]). Transactional leadership had an estimate of 0.0001475 (SE = 0.001378, *z* = 0.1071, *p* = .915, 95% CI [−0.002553, 0.002848]), while laissez-faire leadership had an estimate of 0.001879 (SE = 0.0169, *z* = 0.1112, *p* = .911, 95% CI [−0.03125, 0.03501]). Thus, the analysis did not support work motivation as a statistical mediator for any of the three leadership styles. This conclusion rests on the indirect effects themselves; non-significant direct effects alone would not rule out mediation.

The total effects, representing the combined direct and indirect pathways, were also non-significant. These were 0.07578 for transformational leadership (*p* = .189, 95% CI [−0.03742, 0.189]), 0.0447 for transactional leadership (*p* = .440, 95% CI [−0.0688, 0.1582]), and 0.04542 for laissez-faire leadership (*p* = .428, 95% CI [−0.06695, 0.1578]). Consequently, the model provided insufficient evidence of an overall association between each leadership style and staff performance.

These findings align with Self-Determination Theory, which proposes that support for autonomy, competence, and relatedness fosters autonomous motivation and effective functioning. Holtan et al. (2024) identified positive motivational pathways linking autonomy-supportive leadership, psychological need satisfaction, autonomous motivation, and nurses' performance and well-being. The present analysis did not demonstrate a comparable indirect pathway through overall work motivation. However, the models are not equivalent: autonomy-supportive leadership differs from the three leadership styles assessed here, and autonomous motivation differs from an overall score combining several motivational dimensions. The findings therefore do not invalidate Self-Determination Theory; they indicate that this study's measures and sample did not support the proposed mediation.

From a transformational leadership perspective, inspiring staff, encouraging new approaches, and providing individualized support could contribute to favorable work outcomes. Ystaas et al. (2023) identified positive relationships involving transformational leadership and nurses' work environments, including pathways involving empowerment, organizational

commitment, and job satisfaction. Similarly, Hult et al. (2023) reported generally favorable outcomes associated with relational leadership and identified mediating factors in the wider literature. These reviews suggest that leadership may operate through several mechanisms, but they do not establish that those mechanisms explain the present non-significant results.

The appropriate conclusion is that the hypothesized mediating role of work motivation was not supported, rather than that leadership and motivation have no influence on performance. The analysis used maximum likelihood estimation, and the reported indirect-effect intervals appear consistent with normal-theory calculations. Given the previously reported non-normality, bootstrap confidence intervals would provide a useful sensitivity check. The overall work-motivation score should also be verified against the instrument's instructions, particularly the reverse coding of amotivation, before finalizing the mediation findings.

Summary of Findings

Based on the gathered data, the findings are interpreted as follows.

1. The findings revealed that nurse manager leadership styles were generally demonstrated frequently, if not always, as perceived by the staff nurses. Transformational leadership and laissez-faire leadership obtained the highest mean score of 3.84, while transactional leadership obtained a mean score of 3.81. These findings indicate that staff nurses commonly observed the three leadership styles among their nurse managers.
2. The findings revealed that the overall level of work motivation among staff nurses was high, with a mean score of 5.70. Among the dimensions, introjected regulation had the highest mean score of 6.68, followed by identified regulation with 6.67, integrated regulation with 6.65, external regulation with 6.64, and intrinsic motivation with 6.62. Amotivation obtained a mean score of 1.31, indicating a very low level after reverse coding. These results suggest that the respondents generally demonstrated strong motivation toward their work with little indication of amotivation.
3. The findings revealed that staff nurses demonstrated an outstanding level of performance, with an overall mean score of 4.65. Among the eight dimensions, problem solving had the highest mean score of 4.67, while teamwork had the lowest mean score of 4.63. Despite these differences, respondents interpreted all dimensions as outstanding, indicating they generally perceived themselves as performing their professional and clinical responsibilities at a high level.
4. The findings revealed that the relationships between nurse manager leadership styles and work motivation were generally not statistically significant. The observed correlations were mostly very weak, indicating that nurse managers' perceived leadership styles were not significantly associated with the different dimensions of staff nurses' work motivation in the bivariate analysis.
5. The findings revealed that most relationships between work motivation and staff nurses' performance were not statistically significant- however, several very weak significant relationships were found. Overall work motivation was significantly related to leadership performance ($r = .124$), external motivation was significantly related to contextual performance ($r_s = .117$), amotivation was significantly related to professional skills ($r_s = .119$), and intrinsic motivation was significantly related to teamwork ($r_s = .162$). Nevertheless, overall work motivation was not significantly related to overall staff nurses' performance.
6. The findings revealed that nurse manager leadership styles were generally not significantly related to staff nurses' performance. The only statistically significant relationship identified was between transactional leadership and problem solving ($r_s = .117$). However, the relationship was very weak. This indicates that the three leadership styles were not consistently associated with the different dimensions of staff nurses' performance.
7. The findings showed that work motivation did not significantly mediate the relationship between nurse manager leadership styles and staff nurses' performance. Although transactional leadership significantly predicted work motivation in the mediation model ($\beta = .2822$, $p < .001$), work motivation did not significantly predict staff nurses' performance ($\beta = .00666$, $p = .911$). Consequently, the indirect effects of the leadership styles through work motivation were not statistically significant. The findings therefore indicate that the proposed mediating role of work motivation was not supported in the selected private hospitals in Midsayap, Cotabato.

CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study, the following conclusions were drawn in relation to the research problem.

1. Nurse managers were perceived to demonstrate transformational, transactional, and laissez-faire leadership styles frequently, if not always. The close mean scores across the three leadership styles indicate that staff nurses observed a combination of leadership styles among their nurse managers.

2. Staff nurses demonstrated a high level of work motivation. The different forms of motivation obtained generally high mean scores, while amotivation was very low after reverse coding. This suggests respondents generally felt strong motivated in their nursing work.

3. Staff nurses demonstrated outstanding performance. All eight dimensions of staff nurses' performance were rated outstanding, indicating generally favorable self-reported performance across clinical, professional, interpersonal, problem-solving, teamwork, and leadership responsibilities.

4. Nurse manager leadership styles were not significantly related to staff nurses' work motivation in the bivariate analysis. Thus, the findings did not provide sufficient statistical evidence perceived leadership styles were associated with different forms of work motivation among the respondents.

5. Work motivation was not consistently related to overall staff nurses' performance. Although several very weak significant relationships were identified among specific dimensions, overall work motivation was not significantly related to overall staff nurses' performance.

6. Nurse manager leadership styles were generally not significantly related to staff nurses' performance. The exception was the very weak positive relationship between transactional leadership and problem-solving performance. This isolated relationship was insufficient to establish a consistent relationship between leadership styles and staff nurses' performance.

7. Work motivation did not significantly mediate the relationship between nurse manager leadership styles and staff nurses' performance. Although transactional leadership significantly predicted work motivation in the mediation model, work motivation did not significantly predict staff nurses' performance, resulting in nonsignificant indirect effects.
8. Overall, the proposed leadership–motivation–performance pathway was not statistically supported in the selected private hospitals. The findings suggest that other factors not included in the present study may influence the relationship among nurse manager leadership styles, work motivation, and staff nurses' performance may involve other factors that were not included in the present study.

Recommendations

Based on the findings and conclusions of the study, the following recommendations are made:

Staff Nurse. Staff nurses are encouraged to sustain their outstanding performance through continuing professional development, reflective practice, and active participation in teamwork and leadership activities. Recognizing factors that strengthen or diminish their motivation may also help them identify appropriate support and maintain their professional engagement.

Nursing Management and Administrator. Strengthen clear communication, fair expectations, consistent guidance, and constructive feedback while promoting staff well-being, trust, and participation in decision-making. Provide leadership development opportunities and appropriate staff recognition. Given the very weak but significant association between transactional leadership and problem-solving performance, clearly defined responsibilities may warrant attention; however, this finding does not establish that transactional leadership improves overall staff performance**.**

Hospital Administrators. Hospital administrators should support the maintenance of high motivation and outstanding staff performance by providing adequate resources, professional development opportunities, recognition, and accessible communication channels. Since work motivation did not significantly mediate the relationship between leadership styles and performance, administrators should also assess other potentially relevant organizational conditions, including workload, staffing adequacy, and workplace support.

Nurse Educators. Nursing educators and training coordinators should develop programs that integrate leadership, work motivation, communication, teamwork, problem-solving, and professional ethics. Training should provide practical opportunities for nurses and nurse managers to apply these competencies and critically examine how individual and organizational factors may relate to performance.

Future Researchers. Future researchers should replicate the study using larger and more diverse samples from public and private hospitals across different regions. Probability sampling, where feasible, may strengthen the representativeness of the findings. Researchers should also examine additional variables, such as workload, staffing levels, organizational support, job satisfaction, burnout, compensation, and workplace culture, as potential predictors, mediators, or moderators. Longitudinal and mixed-methods designs may further clarify these relationships and provide a deeper understanding of nurses' experiences.

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