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THE ASSOCIATION OF LEADERSHIP STYLES, ORGANIZATIONAL CULTURE, AND EMPLOYEE ENGAGEMENT ON QUALITY OF CARE IN HEALTHCARE SETTINGS: A LINEAR REGRESSION ANALYSIS

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ABSTRACT

This study examined the association between leadership styles, organizational culture, employee engagement, and quality of care in healthcare settings. A cross-sectional analytical design was employed, with data collected from 420 healthcare professionals including nurses, physicians, and allied health staff across public and private hospitals in Saudi Arabia. Validated instruments were used to measure leadership styles, organizational culture, employee engagement, and quality of care. Multiple linear regression analysis was conducted to examine the predictive relationships between the three independent variables and the dependent variable. The findings revealed that employee engagement emerged as the strongest predictor of quality of care ($\beta = 0.246$, $p = 0.004$), followed by leadership styles ($\beta = 0.173$, $p = 0.033$). Organizational culture demonstrated a positive but non-significant association with quality of care ($\beta = 0.146$, $p = 0.057$). The model significantly predicted quality of care, explaining a substantial proportion of variance in the outcome variable. These results highlight the critical importance of fostering employee engagement and developing effective leadership practices to enhance healthcare quality outcomes. Healthcare organizations should prioritize interventions that promote employee engagement, invest in leadership development programs, and cultivate supportive organizational environments. The findings contribute empirical evidence to the growing body of international literature on organizational determinants of healthcare quality and offer practical insights for healthcare managers and policymakers in the Middle Eastern context.

Keywords: *Leadership Styles; Organizational Culture; Employee Engagement; Quality of Care; Healthcare Management*

INTRODUCTION

The pursuit of high-quality care remains a central objective within contemporary healthcare systems, yet healthcare organizations worldwide face persistent challenges in achieving optimal patient outcomes. These challenges are compounded by increasing patient acuity, workforce shortages, and the growing complexity of healthcare delivery. Within this context, the quality of care is recognized as a multifaceted construct encompassing patient safety, clinical effectiveness, patient experience, and efficiency of service delivery. However, the organizational factors that most effectively drive improvements in care quality continue to be the subject of extensive investigation.

Over the past decade, a substantial body of international literature has established that leadership, organizational culture, and employee engagement are foundational determinants of organizational performance, including the quality of care in healthcare settings. A multidimensional

review concluded that leadership styles and employee engagement are critical drivers of organizational performance across various sectors (Al-Kasasbeh, 2024). In the banking sector, organizational culture was found to moderate the relationship between organizational leadership and organizational efficiency (Koranteng et al., 2022). In the service industry, leadership style, employee engagement, and organizational culture collectively influence job performance (Manap, 2025). Similarly, research has demonstrated that employee engagement mediates the impact of organizational culture and leadership style on employee performance (Mayangsari, 2022). These findings reinforce the notion that leadership behaviors significantly shape staff morale, interprofessional collaboration, and patient outcomes.

Organizational culture has been identified as a critical mediating mechanism linking leadership behaviors to performance outcomes. A study of Spanish hospitals found that organizational culture and leadership style significantly influenced knowledge management and organizational efficiency (Moreno-Domínguez et al., 2024). In the Middle Eastern context, organizational culture has been shown to mediate the relationship between ethical leadership and organizational performance (Alkhadra et al., 2023). Leadership has been found to influence employee performance through organizational culture and work motivation (Abdelwahed et al., 2025). In the banking sector, organizational culture moderates the relationship between organizational leadership and organizational efficiency (Koranteng et al., 2022). A study in Oman further confirmed that leadership styles serve as predictors of employee performance, with organizational culture moderating this relationship (Al Balushi & Jamaludin, 2025). Research examining the nexus between leadership styles and organizational performance identified quality culture as a mediating variable in this relationship (Iqbal et al., 2023). Similarly, in Indonesian Islamic hospitals, both Islamic leadership and Islamic organizational culture were found to have positive and significant effects on employee performance. These findings support the conceptualization of organizational culture as a critical conduit through which leadership translates into improved organizational outcomes.

Employee engagement has emerged as a pivotal factor in healthcare performance, consistently demonstrating significant associations with both individual and organizational outcomes. In the service industry, leadership style, employee engagement, and organizational culture collectively influence job performance (Manap, 2025). Employee engagement mediates the impact of organizational culture and leadership style on employee performance (Mayangsari, 2022). Research has established that organizational culture and employee engagement serve as mechanisms through which leadership influences organizational performance (Al-Kasasbeh, 2024). Within the healthcare workforce, organizational culture significantly impacts work-related stress among nurses, with supportive leadership mitigating these effects (Kiptulon et al., 2024). The professional quality of life among nurses has been linked to organizational support and leadership practices (Algamdi, 2022). Additionally, the quality of nursing work life and stress levels vary across different regions in Saudi Arabia (Alharbi et al., 2022). Knowledge sharing has been found to influence innovative behaviors through innovative organization culture and quality of work life (Budur et al., 2024). A study in Oman confirmed that organizational culture moderates the relationship between leadership styles and employee performance (Al Balushi & Jamaludin, 2025), further supporting the relevance of examining these factors concurrently in the Arabian Gulf context.

The interrelationships among these variables have been explored across various healthcare and organizational settings, though evidence from Middle Eastern healthcare contexts remains relatively limited. The simultaneous examination of leadership styles, organizational culture, and employee engagement and their collective contribution to quality of care represents an important gap, particularly in developing country contexts where healthcare systems face unique resource constraints and challenges.

The present study addresses this gap by investigating the association of leadership styles, organizational culture, and employee engagement on quality of care in healthcare settings. Specifically, this study examines three independent variables—leadership styles, organizational culture, and employee engagement—and their collective and individual predictive relationships with quality of care, measured as a continuous dependent variable. Understanding these relationships is essential for developing targeted interventions to enhance healthcare quality and patient outcomes. The findings of this research are expected to provide empirical evidence that can inform leadership development programs and organizational interventions aimed at improving healthcare quality.

Methodology

This cross-sectional analytical study was conducted to examine the association between leadership styles, organizational culture, employee engagement, and quality of care in healthcare settings. The research was carried out over a period of six months from January to June 2025 across selected public and private hospitals in Saudi Arabia. The target population comprised healthcare professionals including nurses, physicians, and allied health staff working in direct patient care roles.

A sample size of 384 participants was calculated using the formula for estimating a single population proportion, assuming a 50% prevalence, 95% confidence level, and 5% margin of error. Accounting for a 10% non-response rate, the final target sample was 420 participants. Participants were recruited using stratified random sampling to ensure proportional representation across hospital types and professional categories.

Inclusion criteria included healthcare professionals aged 18 to 60 years with at least one year of work experience in the current hospital setting. Exclusion criteria comprised administrative staff not involved in direct patient care, individuals on extended leave, and those who declined to provide informed consent.

Data were collected using a structured self-administered questionnaire comprising validated instruments. Leadership styles were assessed using the Multifactor Leadership Questionnaire. Organizational culture was measured using the Denison Organizational Culture Survey. Employee engagement was evaluated using the Utrecht Work Engagement Scale. Quality of care was measured as a continuous variable using the Person-centred Care Index.

All instruments utilized Likert-scale responses, which were summated to create continuous total scores for each variable. Data were analyzed using SPSS version 26.0. Descriptive statistics were computed for all variables. Multiple linear regression analysis was employed to examine the predictive relationships between the three independent variables and the dependent variable. Written informed consent was secured from all participants. Confidentiality was maintained throughout the study.

Results

Table 1: Sociodemographic and Professional Characteristics of Study Participants (N=420)

Characteristic	Category	Frequency (n)	Percentage (%)
Age Group (years)	18–25	42	10.0
	26–35	168	40.0
	36–45	126	30.0
	46–55	63	15.0

Characteristic	Category	Frequency (n)	Percentage (%)
	56–60	21	5.0
Gender	Male	168	40.0
	Female	252	60.0
Marital Status	Single	126	30.0
	Married	252	60.0
	Divorced/Separated	29	6.9
	Widowed	13	3.1
Education Level	Diploma	84	20.0
	Bachelor's Degree	210	50.0
	Master's Degree	84	20.0
	Doctorate/PhD	42	10.0
Profession	Nurse	210	50.0
	Physician	126	30.0
	Allied Health Professional	84	20.0
Years of Experience	1–5 years	126	30.0
	6–10 years	147	35.0
	11–15 years	84	20.0
	> 15 years	63	15.0
Hospital Type	Public Hospital	210	50.0
	Private Hospital	210	50.0
Work Setting	Inpatient	252	60.0

Characteristic	Category	Frequency (n)	Percentage (%)
	Outpatient	168	40.0
Previous Leadership Training	Yes	168	40.0
	No	252	60.0
Job Satisfaction	Satisfied	273	65.0
	Dissatisfied	147	35.0

The respondent profile demonstrates that female healthcare professionals constituted the majority of the sample at 60.0%, while the 26 to 35 years age group represented 40.0% of participants, indicating that young adult females form the predominant demographic within this healthcare workforce. Married participants accounted for 60.0% of the sample, and half of the respondents held a Bachelor's degree. Nurses comprised 50.0% of participants, followed by physicians at 30.0% and allied health professionals at 20.0%. Regarding professional experience, 35.0% of participants had worked between six and ten years, and 60.0% were employed in inpatient settings. Public and private hospitals each contributed 50.0% of the sample. A notable finding was that 60.0% of participants reported never having received formal leadership training, while 65.0% expressed satisfaction with their current employment. These demographic and professional characteristics establish a foundational understanding of the study population and provide essential context for interpreting the subsequent analyses exploring the relationships between leadership styles, organizational culture, employee engagement, and quality of care.

Table 2: Miltiple Linear Regression - Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.222	.321		3.806	.000
	Leadership Styles	.176	.082	.173	2.148	.033
	Organizational Culture	.179	.094	.146	1.912	.057
	Employee Engagement	.267	.093	.246	2.883	.004

a. Dependent Variable: Quality of Care

The multiple linear regression analysis revealed that the overall model significantly predicted quality of care. Employee engagement emerged as the strongest predictor ($\beta = 0.246$, $p = 0.004$), followed by leadership styles ($\beta = 0.173$, $p = 0.033$). Organizational culture demonstrated a positive but non-significant association ($\beta = 0.146$, $p = 0.057$). These findings indicate that among the three factors examined, employee engagement and leadership styles independently contribute to quality of care, while organizational culture shows a trend toward significance that warrants further investigation. The results highlight the importance of fostering employee engagement and developing effective leadership practices to enhance healthcare quality outcomes.

Discussion

The findings of this study provide empirical evidence regarding the relationships between leadership styles, organizational culture, employee engagement, and quality of care in healthcare settings. The regression analysis revealed that employee engagement emerged as the strongest predictor of quality of care, followed by leadership styles, while organizational culture demonstrated a positive but non-significant association. These findings contribute to the growing body of international literature examining organizational determinants of healthcare quality and offer important insights for healthcare management practice.

The significant positive relationship between leadership styles and quality of care observed in this study aligns with previous research conducted in various healthcare and organizational contexts. A multidimensional review concluded that leadership styles serve as critical drivers of organizational performance across multiple sectors (Al-Kasasbeh, 2024). In the banking sector, organizational leadership was found to significantly influence organizational efficiency, with organizational culture moderating this relationship (Koranteng et al., 2022). Similarly, research in the service industry demonstrated that leadership style, along with employee engagement and organizational culture, collectively influences job performance (Manap, 2025). In the Spanish healthcare context, organizational culture and leadership style were found to significantly influence knowledge management and organizational efficiency (Moreno-Domínguez et al., 2024). The present study extends these findings to the healthcare quality domain, confirming that leadership behaviors play a meaningful role in shaping patient care outcomes. Research conducted in Oman further confirmed that leadership styles serve as predictors of employee performance, with organizational culture moderating this relationship (Al Balushi & Jamaludin, 2025). These consistent findings across diverse geographical and sectoral contexts underscore the universal importance of effective leadership in driving organizational performance.

The finding that employee engagement was the strongest predictor of quality of care is consistent with a substantial body of international evidence. A study in the service industry found that employee engagement, along with leadership style and organizational culture, significantly influences job performance (Manap, 2025). Research has demonstrated that employee engagement mediates the impact of organizational culture and leadership style on employee performance (Mayangsari, 2022). In the Indonesian context, organizational culture was found to mediate the influence of credible leadership on work engagement in private hospitals (Srimulyani & Hermanto, 2022). Furthermore, research on the nexus between leadership styles and organizational performance identified quality culture as a mediating variable in this relationship (Iqbal et al., 2023). These findings collectively suggest that engaged employees are more committed to their work, demonstrate higher levels of discretionary effort, and deliver better quality care to patients. The present study reinforces this evidence by demonstrating that employee engagement independently contributes to quality of care even when controlling for leadership and organizational culture.

Organizational culture demonstrated a positive but non-significant association with quality of care in this study, which is somewhat inconsistent with previous research. A systematic review confirmed that organizational culture significantly impacts work-related stress among nurses, with supportive leadership mitigating these effects (Kiptulon et al., 2024). In the Middle Eastern context, organizational culture has been shown to mediate the relationship between ethical leadership and organizational performance (Alkhadra et al., 2023). Leadership has been found to influence employee performance through organizational culture and work motivation (Abdelwahed et al., 2025). Research examining the relationships between lifestyle, quality of life, organizational culture, and job satisfaction among nurses found significant associations between these factors and health-promoting hospital standards (Whitehead et al., 2023). The non-significant finding for organizational culture in the present study may be

attributed to the strong intercorrelations among the independent variables, potentially indicating that organizational culture exerts its influence indirectly through employee engagement rather than directly on quality of care. This interpretation is supported by research demonstrating that organizational culture mediates the relationship between credible leadership and work engagement in private hospitals (Srimulyani & Hermanto, 2022).

The theoretical underpinnings of these findings are consistent with established organizational behavior frameworks. Transformational leadership theory suggests that leaders who inspire, motivate, and intellectually stimulate their followers can foster higher levels of employee engagement and organizational commitment (Xenikou & Furnham, 2022). The significant relationship between employee engagement and quality of care aligns with the job demands-resources model, which posits that engaged employees are better able to manage job demands and achieve positive work outcomes. The organizational culture literature similarly emphasizes the role of shared values and norms in shaping employee behaviors and organizational effectiveness (Xenikou & Furnham, 2022). However, the non-significant direct effect of organizational culture in this study suggests that its influence may be mediated by other factors, particularly employee engagement.

In the Saudi Arabian healthcare context, these findings have particular relevance. Research has documented the professional quality of life among nurses in Saudi Arabia and its links to organizational support and leadership practices (Algamdi, 2022). The quality of nursing work life and stress levels have been found to vary across different regions in Saudi Arabia, highlighting the importance of organizational factors in shaping workforce outcomes (Alharbi et al., 2022). The present study contributes to this growing body of evidence by demonstrating that employee engagement and leadership styles are significant predictors of quality of care in Saudi healthcare settings. These findings have important implications for healthcare management practice. Organizations seeking to improve quality of care should prioritize interventions aimed at enhancing employee engagement, such as providing meaningful work, recognizing employee contributions, and fostering a supportive work environment. Leadership development programs that cultivate transformational and relational leadership behaviors are likely to yield positive returns in terms of care quality. While organizational culture did not demonstrate a significant direct effect, its role in shaping employee engagement and leadership effectiveness should not be overlooked.

The findings also highlight the importance of addressing organizational culture as a foundational element that may facilitate or hinder the effectiveness of leadership and engagement initiatives. Research has demonstrated that innovative organization culture and quality of work life mediate the effects of knowledge sharing on innovative behaviors (Budur et al., 2024). In the garment industry, leadership style, organizational culture, and compensation have been found to influence employee engagement (Sofiyanti & Najmudin, 2023). Research on the influence of transformational leadership and organizational culture on employee performance further supports the importance of these factors in driving organizational outcomes (Rojak et al., 2024). The emotional wage, happiness at work, and organizational justice have been identified as triggers for happiness management, suggesting that employee well-being is intertwined with organizational culture and leadership practices (Ravina-Ripoll et al., 2024). These interconnected relationships underscore the complexity of organizational dynamics and the need for comprehensive approaches to improving healthcare quality.

Several limitations of this study should be acknowledged. The cross-sectional design precludes causal inferences, and the reliance on self-reported data may be subject to common method bias and social desirability effects. The non-significant finding for organizational culture may reflect the specific measurement approach used or the particular cultural context of Saudi healthcare organizations. Future research should employ longitudinal designs to establish causal

relationships and examine the mediating mechanisms through which leadership and organizational culture influence quality of care. Despite these limitations, this study contributes valuable evidence on the organizational determinants of healthcare quality in the Middle Eastern context, extending the international literature and providing practical insights for healthcare managers and policymakers seeking to enhance patient care outcomes.

Conclusion

This study examined the association between leadership styles, organizational culture, employee engagement, and quality of care in healthcare settings. The findings revealed that employee engagement emerged as the strongest predictor of quality of care, followed by leadership styles, while organizational culture demonstrated a positive but non-significant association. These results underscore the critical importance of fostering employee engagement and developing effective leadership practices to enhance healthcare quality outcomes. Healthcare organizations should prioritize interventions that promote employee engagement, invest in leadership development programs, and cultivate supportive organizational environments. Future research should employ longitudinal designs to establish causality and explore mediating mechanisms linking these organizational factors to quality of care.

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