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The Moderating Role of Health Centre Characteristics in the Relationship between Psychosocial Work Environment and Quality of Health Care in Health Centre IVs in South Western Uganda

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Abstract: This study examined the moderating role of health centre characteristics in the relationship between psychosocial work environment and quality of health care in Health Centre IVs in South Western Uganda. The study adopted a mixed-methods cross-sectional design grounded in a critical realist philosophical orientation. Data were collected from 35 Health Centre IVs in Southwestern Uganda, involving 238 healthcare workers, 172 health service recipients, and six District Health Officers. Quantitative data were analyzed using descriptive statistics, Pearson correlation analysis, hierarchical regression, and Structural Equation Modelling (SEM), while qualitative data were analyzed using thematic content analysis. Pearson correlation analysis revealed a positive and statistically significant relationship between psychosocial work environment and quality of health care ($r = .496^{**}$, $p < .01$). SEM results indicated that psychosocial work environment was positively and significantly associated with quality of health care ($\beta = .507$, $p < .001$), while health centre characteristics were also positively and significantly associated with quality of health care ($\beta = .161$, $p < .001$). More importantly, the interaction between psychosocial work environment and health centre characteristics was positive and statistically significant ($\beta = .235$, $p < .001$), indicating that favorable health centre characteristics strengthened the positive relationship between psychosocial work environment and quality of health care. These findings suggest that improving workplace conditions alone may not achieve optimal service quality unless supported by favorable organizational and structural conditions within Health Centre IVs. This study extends the literature by demonstrating that health centre characteristics significantly moderate the relationship between psychosocial work environment and quality of health care.

Keywords: *Psychosocial Work Environment; Quality of Health Care; Health Centre Characteristics; Moderation; Health Centre IVs; Uganda.*

1. Introduction

Quality of health care remains a central concern for health systems globally because it directly influences patient outcomes, population health, and health system performance. The World Health Organization defines quality of health care as the extent to which health services increase the likelihood of desired health outcomes and are consistent with current professional knowledge (World Health Organization, 2022). Despite substantial investments in health infrastructure, technology, and workforce development, poor-quality health care continues to contribute to avoidable morbidity and mortality worldwide. Kruk et al. (2018) estimated that poor-quality care accounts for more deaths annually than lack of access to health services in many low- and middle-income countries. Globally, increasing attention has therefore shifted from expanding access to ensuring that health services are effective, patient-centred, safe, timely, efficient, and equitable (World Health Organization, 2022).

The quality of health care delivered within health facilities is influenced by multiple organizational factors, among which the psychosocial work environment has gained increasing scholarly attention. The psychosocial work environment refers to the social, organizational, and psychological conditions under which employees perform their work and includes dimensions such as work-life balance, workplace climate, interpersonal relationships, organizational support, and reward systems (Aust et al., 2023). Research has shown that supportive psychosocial work environments improve employee well-being, job satisfaction, motivation, and organizational commitment, which subsequently enhance service quality and organizational performance (Bakker & Demerouti, 2017). Conversely, poor psychosocial conditions contribute to burnout, absenteeism, turnover intentions, emotional exhaustion, and reduced productivity among employees (Schaufeli, 2017).

In the health sector, the psychosocial work environment is particularly important because health care professionals operate in demanding environments characterized by high workloads, emotional labor, time pressure, and increasing service demands. Studies conducted in Europe, North America, and Asia indicate that supportive work environments improve communication, teamwork, patient safety, and patient satisfaction while reducing medical errors and staff turnover (Rosen et al., 2018; Salas et al., 2018). Health facilities that provide supportive leadership, recognition systems, and positive workplace climates often report better patient experiences and improved quality indicators compared to facilities characterized by workplace stress and poor organizational support (Aiken et al., 2018).

In Africa, efforts to improve the quality of health care continue to face challenges associated with workforce shortages, limited resources, weak health systems, and increasing disease burdens. Although many African countries have implemented reforms aimed at strengthening health systems and improving service delivery, quality of care remains inconsistent across health facilities (Hategeka et al., 2020). The World Health Organization (2021) reports that health systems across sub-Saharan Africa continue to experience significant challenges related to staffing adequacy, employee well-being, and workplace support mechanisms. These challenges affect health worker motivation and consequently influence patient outcomes and service quality.
Several studies conducted within African health systems have highlighted the importance of psychosocial workplace conditions in shaping health service delivery outcomes. For example, Apiyo et al. (2022) found that workplace support, communication, and employee well-being significantly influenced health worker performance and patient care outcomes in East African health facilities. Similarly, Atumanya et al. (2024) reported that occupational stress, emotional exhaustion, and inadequate organizational support negatively affected the performance of health workers and the quality of services provided. Despite these findings, evidence regarding how psychosocial work environments influence the quality of health care within primary health care facilities remains limited, particularly in rural and resource-constrained settings.

Uganda has undertaken numerous health sector reforms aimed at improving access to and quality of health care services. The Ministry of Health has implemented various strategies focusing on workforce development, service delivery improvement, digital health systems, and health facility strengthening (Ministry of Health Uganda, 2023). Health Centre IV facilities represent a critical component of Uganda's health system because they provide comprehensive primary health care services, including inpatient care, emergency surgery, maternal health services, laboratory services, and referral support for lower-level facilities. These facilities, therefore, play a pivotal role in determining the quality of health care experienced by large segments of the population, particularly in rural and semi-urban areas.

Despite these efforts, quality of health care challenges persist within many Health Centre IV facilities. Ministry of Health reports indicate that several facilities continue to experience problems related to patient satisfaction, long waiting times, communication gaps, workforce shortages, and staff burnout (Ministry of Health Uganda, 2024/2025). Furthermore, only a proportion of health facilities consistently meet national service quality standards, suggesting that organizational and contextual factors continue to influence service delivery outcomes. Among these factors, the psychosocial work environment has emerged as a potentially important determinant of quality of health care because it affects health worker motivation, commitment, and service delivery behavior.

South Western Uganda presents a particularly important context for examining these relationships. The region contains a mixture of rural, peri-urban, and semi-urban Health Centre IV facilities that operate under varying resource conditions. Previous studies have reported challenges related to staffing shortages, workload pressures, limited psychosocial support, inadequate infrastructure, and workforce instability within health facilities across the region (Apiyo et al., 2022). These challenges create workplace conditions that may influence health workers' well-being and ultimately affect the quality of health care delivered to patients.

However, the influence of the psychosocial work environment on the quality of health care may not occur uniformly across all health facilities. According to Aust et al. (2023), organizational context plays a critical role in determining whether positive workplace conditions translate into improved organizational outcomes. Health centre characteristics such as years of operation, staffing composition, and facility location influence institutional capacity, workforce availability, organizational maturity, and access to operational support

systems. Consequently, the effect of the psychosocial work environment on the quality of health care may vary depending on the characteristics of individual health facilities.

Although previous studies have examined psychosocial workplace conditions and employee outcomes, limited empirical evidence exists regarding the moderating role of health centre characteristics in the relationship between psychosocial work environment and quality of health care, particularly within primary health care facilities in developing countries. Existing studies have largely examined direct effects while overlooking the contextual conditions that may strengthen or weaken these relationships. This knowledge gap remains particularly evident within Uganda's Health Centre IV facilities, where empirical evidence on psychosocial work environments and quality of health care remains limited.

Therefore, this study examined the influence of psychosocial work environment on quality of health care in Health Centre IVs in South Western Uganda and assessed the moderating role of health centre characteristics in this relationship. Specifically, the study focused on work-life balance, workplace climate, and reward systems as dimensions of psychosocial work environment and examined their influence on effectiveness, patient-centredness, patient safety, and patient satisfaction. The study contributes to the health care management literature by providing empirical evidence on how workplace conditions and contextual facility characteristics jointly influence the quality of health care in primary health care settings.

2. Literature Review and Hypothesis Development

Theoretical Foundation

This study was anchored on the Donabedian Model of Quality of Health Care (Donabedian, 1988), which conceptualizes quality of care through three interrelated dimensions: structure, process, and outcome. The model proposes that the structural attributes of health facilities influence healthcare delivery processes, which subsequently determine the quality of healthcare outcomes. Structural attributes include both the physical and organizational conditions under which healthcare services are delivered, whereas processes refer to the interactions between healthcare providers and patients that ultimately influence service outcomes.

In the present study, the psychosocial work environment represents an important organizational structural condition because it shapes the psychological, social and organizational context within which healthcare workers perform their duties. A favorable psychosocial work environment characterized by a supportive workplace climate, work-life balance and effective reward systems is expected to facilitate effective care processes through improved staff motivation, communication, collaboration and commitment. Quality of health care, reflected through effectiveness, patient-centredness, patient safety and patient satisfaction, represents the outcome component of the Donabedian Model.

The study further conceptualizes health centre characteristics, including staffing composition, years of operation and facility location, as contextual structural conditions that influence how effectively psychosocial work environments translate into quality healthcare outcomes. Rather than functioning as direct antecedents of the psychosocial work environment, these characteristics provide the organizational context within which workplace conditions operate. Consequently, the relationship between psychosocial work environment and quality of health care is expected to vary according to differences in health centre characteristics, making these characteristics conceptually appropriate as a moderating variable.

The theoretical contribution of this study lies in integrating the Donabedian Model with the psychosocial work environment perspective to explain not only whether the psychosocial work environment is associated with the quality of health care, but also the organizational conditions under which this relationship becomes stronger or weaker. While previous studies have largely examined the direct association between psychosocial work environment and healthcare outcomes, they have given limited attention to the contextual role of organizational characteristics. By introducing health centre characteristics as a moderator, this study extends the Donabedian framework by demonstrating that structural organizational conditions influence the strength of the relationship between psychosocial work environment and quality of health care rather than merely exerting independent effects. This integration provides a more comprehensive understanding of quality improvement within primary healthcare facilities, particularly in resource-constrained settings.

The Donabedian Model has been widely applied to evaluate organizational determinants of healthcare quality and patient outcomes (McCullough et al., 2023; Tossaint-Schoenmakers et al., 2021). However, few studies have integrated it with psychosocial work environment theory to explain how organizational context shapes the effectiveness of workplace interventions. The present study addresses this gap by proposing that favorable health centre characteristics strengthen the positive relationship between psychosocial work environment and quality of health care.

Psychosocial Work Environment and Quality of Health Care

Psychosocial work environment refers to the psychological, social and organizational conditions under which employees perform their work. It encompasses workplace climate, work-life balance, organizational support, communication, employee recognition and reward systems (Aust et al., 2023). Within healthcare settings, the psychosocial work environment influences employee wellbeing, motivation, commitment and job satisfaction, which subsequently shape service delivery processes and healthcare quality.

Globally, empirical evidence consistently demonstrates that supportive psychosocial work environments are associated with higher quality of health care. Aiken et al. (2018) found that hospitals characterized by positive work environments reported lower patient mortality, higher patient satisfaction and better patient safety outcomes. Similarly, Rosen et al. (2018) observed that collaborative workplace climates and supportive leadership enhanced teamwork, communication and coordination, leading to improved patient care experiences. Bakker and Demerouti (2017), through the Job Demands–Resources Theory, further argued that organizational resources such as supportive supervision, recognition and positive workplace relationships enhance employee engagement and performance while reducing the adverse effects of workplace demands.

Evidence from African healthcare systems also supports these findings. Atumanya et al. (2024) reported that occupational stress and emotional exhaustion were associated with reduced health worker performance and poorer service delivery outcomes within public health facilities. Likewise, Apiyo et al. (2022) found that supportive workplace environments improved employee motivation, teamwork and patient care outcomes in East African health facilities. These findings suggest that healthcare workers operating within favorable psychosocial work environments are more likely to demonstrate commitment, responsiveness and patient-centred behavior than those working under stressful organizational conditions.

Within Uganda, healthcare workers frequently operate under conditions characterized by heavy workloads, staffing shortages, limited resources and inadequate psychosocial support systems. These conditions often contribute to burnout, absenteeism and reduced morale, thereby compromising the quality of healthcare services delivered to patients. Conversely, facilities that promote work-life balance, supportive workplace climates and effective reward systems are more likely to create conditions that enable healthcare workers to provide safe, responsive and patient-centred care. Although existing studies have established a direct relationship between psychosocial work environment and healthcare quality, limited evidence exists regarding whether this relationship varies according to differences in organizational context, particularly within Health Centre IVs operating under diverse structural conditions in Uganda. Addressing this gap provides the basis for examining the moderating role of health centre characteristics in the present study. Based on the foregoing literature, the study hypothesized that:

H1: Psychosocial work environment has a positive and significant relationship with the quality of health care in Health Centre IVs in South Western Uganda.

Health Centre Characteristics as a Moderator of the Relationship between Psychosocial Work Environment and Quality of Health Care

The relationship between the psychosocial work environment and quality of health care may not be uniform across health facilities because organizational and structural characteristics differ considerably. The Donabedian Model posits that structural characteristics provide the context within which healthcare processes operate to produce quality outcomes (Donabedian, 1988). Accordingly, health centre characteristics such as staffing composition, years of operation, and facility location are expected to shape the extent to which supportive psychosocial work environments are associated with quality of health care. Rather than acting as direct determinants alone, these characteristics may strengthen or weaken the relationship between

workplace conditions and healthcare quality by influencing organizational capacity, availability of resources, and service delivery processes.

Empirical evidence supports the view that organizational characteristics modify the effectiveness of workplace and quality improvement initiatives. Brand et al. (2012) reported that hospital characteristics, including workforce design, leadership, financial incentives, and health information systems, were associated with differences in organizational performance and patient safety. Similarly, Vanichchinchai (2021) found that hospitals with higher organizational readiness, smaller size, and quality certification achieved better service quality outcomes from lean management initiatives than hospitals with weaker organizational structures. These findings suggest that organizational interventions are more likely to achieve favorable outcomes where institutional conditions support their implementation.

Evidence also demonstrates that specific structural characteristics alter the relationship between organizational practices and healthcare outcomes. Silvera (2017) found that hospital size moderated the relationship between patient experience and patient safety, with the positive relationship becoming weaker as hospital size increased because of greater organizational complexity. Likewise, Hussein et al. (2021) established that accreditation and institutional standards strengthened safety culture, operational efficiency, and quality improvement processes, although evidence regarding patient experience and employee satisfaction remained mixed. Vaughn et al. (2019) similarly identified organizational culture, staffing adequacy, leadership, and infrastructure as important contextual factors associated with healthcare quality, suggesting that deficiencies in these structural characteristics may limit the effectiveness of organizational improvement initiatives.

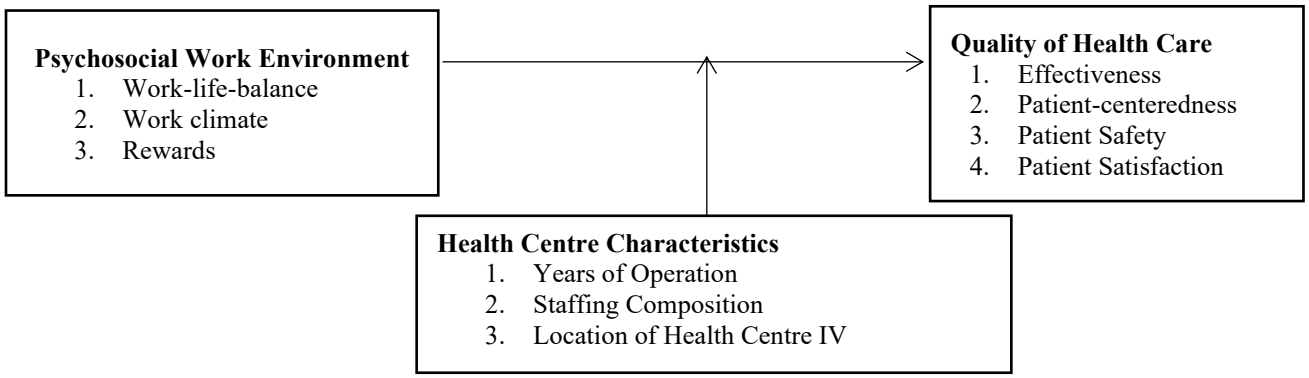
Although previous studies generally suggest that favorable organizational characteristics strengthen healthcare performance, the findings are not entirely consistent. While accreditation, organizational readiness, and supportive leadership have been associated with improved service quality (Hussein et al., 2021; Vanichchinchai, 2021), other studies reported that organizational complexity associated with larger institutions reduced the effectiveness of quality improvement efforts (Silvera, 2017). These contrasting findings indicate that institutional characteristics do not operate uniformly across healthcare settings and that their role depends on the organizational context within which health services are delivered.

Within Uganda, Health Centre IVs operate under diverse organizational conditions characterized by differences in staffing composition, operational experience, infrastructure, and geographical location. These differences are likely to influence how psychosocial work environments are associated with the quality of health care. For example, supportive workplace climates, effective reward systems, and favorable work-life balance may be more strongly associated with quality of health care in facilities with adequate staffing and organizational capacity than in facilities experiencing severe workforce shortages or limited operational resources. Despite this theoretical expectation, limited empirical evidence has examined whether health centre characteristics moderate the relationship between psychosocial work environment and quality of health care within Uganda's primary healthcare system. Most previous studies have examined direct relationships between workplace conditions and healthcare quality without considering the contextual role of organizational characteristics. This study, therefore, addresses this gap by examining whether health centre characteristics strengthen or weaken the relationship between psychosocial work environment and quality of health care in Health Centre IVs in South Western Uganda. Accordingly, the study hypothesized that:

H_2: Health centre characteristics significantly moderate the relationship between psychosocial work environment and quality of health care in Health Centre IVs in South Western Uganda.

Conceptual Framework

Figure 1: Conceptual Framework



Source: Literature review of (Aust et al., 2023; Kruk et al., 2018; Meath et al., 2022; Rosen et al., 2018; Salas et al., 2018; Yang et al., 2025)

3. Method

Research Design

This study adopted a mixed-methods cross-sectional design to examine the influence of psychosocial work environment on the quality of health care in Health Centre IVs in South Western Uganda and the moderating role of health centre characteristics. Quantitative methods generated the primary data, while qualitative methods provided contextual explanations for the quantitative findings.

Study Population and Sampling

The study was conducted in 43 government-owned Health Centre IVs in South Western Uganda. The unit of analysis was the Health Centre IV, while the units of inquiry were health care workers, health service recipients, and District Health Officers. Health care workers provided information on psychosocial work environment and health centre characteristics, whereas health service recipients assessed the quality of health care received. District Health Officers served as key informants, as shown in Table 1.

The sample size was determined using the Krejcie and Morgan (1970) table. A total of 38 Health Centre IVs were selected using simple random sampling. Health care workers were selected purposively, health service recipients were selected through quota sampling, and six District Health Officers were purposively selected as key informants.

Table 1: Study population and sample

Category	Population	Sample	Sampling Technique
Health Centre IVs	43	38	Simple random
Health care workers	1,008	278	Purposive
Health service recipients		190	Quota
District Health Officers	19	6	Purposive
Total quantitative respondents		**468**	

Data Collection Methods

Data were collected using questionnaires, key informant interviews, and document review. The questionnaires were developed by the researcher based on an extensive review of the literature and existing theoretical and empirical studies related to psychosocial work environment, health centre characteristics, and quality of health care. The questionnaire for health care workers was used to collect data on psychosocial work environment and health centre characteristics, while the questionnaire for health service recipients was used to obtain data on quality of health care. The questionnaire items were developed to reflect the dimensions of the respective study constructs and were subjected to expert review and pre-testing to ensure their relevance, clarity, and

suitability for the study. Key informant interviews were conducted with District Health Officers to obtain managerial perspectives on psychosocial work environment and quality of health care, while document review provided information on staffing composition, years of operation, and facility location.

Measurement of Variables

The study measured psychosocial work environment as the independent variable, quality of health care as the dependent variable, and health centre characteristics as the moderating variable. The psychosocial work environment was measured using work-life balance, workplace climate, and reward systems. Quality of health care was measured using effectiveness, patient-centredness, patient safety, and patient satisfaction, while health centre characteristics were measured using years of operation, staffing composition, and facility location. The psychosocial work environment was assessed from the perspective of health care workers, while the quality of health care was assessed by health service recipients. Health centre characteristics were obtained from health care workers and verified through document review. All questionnaire items were measured on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Table 2: Measurement of Study Variables

Variables	Dimensions	Respondent
Psychosocial work environment	Work-life balance, workplace climate, reward systems	Health care workers
Quality of Health Care	Effectiveness, patient-centredness, patient safety, patient satisfaction	Health service recipients
Health Centre Characteristics	Years of operation, staffing composition, facility location	Health care workers and document review

Table 2 summarizes the variables investigated in the study, their respective dimensions, and the sources from which data were obtained. The use of multiple respondent groups enabled the collection of information from individuals best placed to assess each construct.

Validity and Reliability

Before the main survey, the questionnaire for health care workers and the questionnaire for health service recipients were pre-tested among respondents within the study area who possessed characteristics comparable to those of the target population. Since the questionnaires were administered in Runyankore, the pre-test was conducted within the same geographical context to ascertain the clarity, relevance, appropriateness, and comprehensibility of the translated items. Measures were undertaken to ensure that respondents who participated in the pre-test did not participate in the main study. Construct validity was assessed using the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity, while the internal consistency of the measurement scales was assessed using Cronbach's Alpha coefficient.

Table 3: Validity Results

Construct	Number of Items	KMO	Bartlett's Test (Sig.)
Psychosocial work environment	18	0.792	0.000
Quality of Health Care	40	0.836	0.000

The results presented in Table 3 indicate that the KMO values for all constructs exceeded the recommended threshold of 0.70, while Bartlett's Test of Sphericity was statistically significant ($p < 0.001$). These findings confirmed that the measurement items were suitable for factor analysis and adequately represented the study constructs.

The reliability of the measurement scales was subsequently assessed using Cronbach's Alpha coefficient. Values of 0.70 and above were considered acceptable for establishing internal consistency.

Table 4: Reliability Results

Construct	Number of Items	Cronbach's Alpha (α)
Psychosocial work environment	18	0.811
Quality of Health Care	40	0.884

As shown in Table 4, all study constructs attained Cronbach's Alpha coefficients above the recommended threshold of 0.70, indicating satisfactory internal consistency. The questionnaire was therefore considered reliable for the main data collection exercise.

Measurement Model Assessment

Before testing the structural model, Confirmatory Factor Analysis (CFA) was conducted using AMOS to assess the validity and reliability of the measurement model. The assessment was based on standardized factor loadings, Composite Reliability (CR), Average Variance Extracted (AVE), and model fit indices. Standardized factor loadings of 0.50 and above, Composite Reliability values of 0.70 and above, and Average Variance Extracted values of 0.50 and above were considered acceptable (Hair et al., 2019; Kline, 2016). The CFA results confirmed that all retained indicators adequately represented their respective latent constructs, thereby establishing satisfactory convergent validity before testing the structural relationships.

Table 5: Summary of Measurement Model Assessment

Construct	Standardized Factor Loadings	CMIN/DF	RMSEA	GFI	CFI	TLI	NFI
Psychosocial Work Environment	0.73–0.89	1.487	0.044	0.951	0.968	0.956	0.939
Health Centre Characteristics	0.70–0.87	1.604	0.046	0.946	0.961	0.950	0.932
Quality of Health Care	0.72–0.91	1.955	0.049	0.942	0.961	0.949	0.931

Source: Primary Data (2025).

The results presented in Table 5 indicate that all retained indicators recorded standardized factor loadings above the recommended threshold of 0.50, confirming that the observed indicators adequately measured their respective latent constructs. In addition, all measurement models demonstrated acceptable goodness-of-fit, with CMIN/DF values below 3.00, GFI, CFI, TLI, and NFI values above 0.90, and RMSEA values below 0.08. These findings confirmed that the measurement model exhibited satisfactory construct validity and was appropriate for subsequent structural model estimation.

Data Analysis

Quantitative data were coded, cleaned, and analyzed using IBM SPSS Statistics Version 27, while Structural Equation Modelling (SEM) was performed using AMOS. Two separate questionnaires were administered to different respondent groups. Health care workers provided information on psychosocial work environment and health centre characteristics, whereas health service recipients assessed the quality of health care.

Following data collection, responses from the two questionnaires were matched using the respective Health Centre IV as the common unit of analysis. Mean scores for the study variables were then computed and merged to generate a single facility-level dataset for analysis. Since the Health Centre IV was the unit of analysis, responses obtained from health care workers and health service recipients within each Health Centre IV were aggregated by computing mean scores for the respective study variables to generate facility-level data. This enabled each Health Centre IV to contribute a single observation to the statistical analyses, thereby ensuring consistency between the unit of inquiry and the unit of analysis. The use of separate respondent groups to measure the independent, moderating, and dependent variables reduced the likelihood of common method bias arising from collecting data from a single source. Descriptive statistics were computed to summarize the characteristics of the respondents and the distribution of the study variables. Pearson correlation analysis was conducted to determine the strength and direction of the relationships among psychosocial work environment, health centre characteristics, and quality of health care. Hierarchical regression analysis was performed to examine the predictive relationship between psychosocial work environment and quality of health care. The moderating role of health centre characteristics was examined using SEM by estimating the interaction effect

between psychosocial work environment and health centre characteristics. Statistical significance was evaluated at the 5% level.

Qualitative data obtained from key informant interviews were transcribed and analyzed using thematic analysis. Emerging themes were compared with the quantitative findings to provide contextual explanations and strengthen the interpretation of the results. Documentary evidence was analyzed using content analysis to corroborate information obtained from questionnaires and interviews.

Ethical Considerations

Ethical approval was obtained from the Mbarara University of Science and Technology Research Ethics Committee before data collection. Administrative permission was subsequently obtained from the Ministry of Health, District Health Offices, and the management of the participating Health Centre IVs. Participation was voluntary, and written informed consent was obtained from all respondents before their involvement in the study. Confidentiality and anonymity were maintained by assigning identification codes instead of participants' names, and the information collected was used solely for research purposes.

4. Results and Discussion

This section presents and discusses the findings on the relationship between psychosocial work environment and quality of health care, as well as the moderating role of health centre characteristics. The findings are presented using correlation analysis, regression analysis, and Structural Equation Modelling (SEM). The discussion focuses on the implications of the findings within the context of Health Centre IVs in South Western Uganda and existing literature.

Response Rate

The study targeted 38 Health Centre IVs, 278 health care workers, and 190 health service recipients, giving a planned quantitative sample of 468 respondents. A total of 35 Health Centre IVs participated in the study, from which 238 health care workers and 172 health service recipients returned completed questionnaires, representing an overall response rate of 87.6%. In addition, six District Health Officers participated in the key informant interviews. According to Baruch and Holtom (2008), response rates above 70% are considered adequate for organizational research, suggesting that the achieved response rate was sufficient to support reliable statistical analysis.

Table 6: Response Rate

Category	Planned Sample	Achieved Sample	Response Rate (%)
Health Centre IVs	38	35	92.1
Health care workers	278	238	85.6
Health service recipients	190	172	90.5
Total quantitative respondents	468	410	87.6
District Health Officers	6	6	100.0

Relationship between Psychosocial Work Environment and Quality of Health Care

To determine whether the psychosocial work environment is associated with the quality of healthcare, a Pearson correlation analysis was conducted. The results are presented in Table 7.

Table 7: Correlation Analysis Results (n=35)

Variable	1	2	3	4	5	6	7	8	9
Work-life Balance-1	1								
Workplace Climate-2	.634**	1							
Rewards-3	.400**	.549**	1						
Psychosocial Work Environment-4	.497**	.639**	.519**	1					
Effectiveness-5	.170	.189	.186	.419**	1				

Patient-Centred Care-6	.370*	.374*	.337*	.467**	.662**	1			
Patient Safety-7	.553**	.400**	.340*	.456**	.646**	.761**	1		
Patient Satisfaction-8	.169	.118	.134	.305*	.512**	.481**	.402**	1	
Quality of Health Care-9	.383*	.323*	.298*	**.496****	.851**	.864**	.850**	.739**	1

**. Correlation is significant at the 0.01 level (1-tailed).
*. Correlation is significant at the 0.05 level (1-tailed).

The results presented in Table 7 reveal a positive and statistically significant relationship between psychosocial work environment and quality of health care ($r = .496$, $p < .01$). The correlation coefficient of .496 indicates a moderate positive relationship between the two variables, suggesting that Health Centre IVs characterized by more favorable psychosocial work environments were generally associated with higher levels of quality of health care. The statistical significance indicates that the observed relationship was unlikely to have occurred by chance.

The observed relationship may be explained by the nature of health service delivery, which depends largely on the working conditions experienced by health care workers. Health workers operating in environments characterized by supportive workplace climates, manageable work demands, and appropriate recognition are more likely to communicate effectively, collaborate with colleagues, and respond promptly to patients' needs. Within the Ugandan Health Centre IV context, where health facilities frequently experience staffing shortages, heavy workloads, and resource constraints, supportive psychosocial work environments may help health workers maintain motivation and professionalism, thereby promoting effectiveness, patient-centredness, patient safety, and patient satisfaction.

The findings further suggest that favorable psychosocial work environments are associated with organizational conditions that enable health workers to perform their responsibilities more effectively. However, because the study adopted a cross-sectional design, the findings demonstrate an association rather than a causal relationship. Other organizational factors, including leadership practices, resource availability, and management support, may also be associated with the quality of health care and therefore provide alternative explanations for the observed relationship.

The findings are consistent with Aust et al. (2023), who reported that supportive psychosocial work environments were associated with improved employee performance and organizational effectiveness. Similarly, Apiyo et al. (2022) found that favorable workplace conditions were associated with higher levels of health worker motivation and improved service delivery in health facilities. The findings also align with those of Atumanya et al. (2024), who reported that workplace stress and poor psychosocial conditions were associated with reduced health worker performance and poorer quality of healthcare.

Regression Analysis

To further determine the extent to which the psychosocial work environment influences the quality of health care, regression analysis was conducted. The results are presented in Table 8.

Table 8: Regression Results for Psychosocial Work Environment and Quality of Health Care

	Coffiencients				
Predictor	**B**	**Std. Error**	**Beta**	**t**	**p-value**
Constant	.884	.405		2.183	.031
Psychosocial Work Environment	.388	.091	.263	4.264	.000
Model Summary					
Statistic		**Value**			
R		.704			
R Square		.496			
Adjusted R-Square		.464			
F Statistic		15.721			
Significance		.000			

Source: Primary Data (2025)

The regression results indicate that the psychosocial work environment had a positive and statistically significant relationship with quality of health care ($\beta = .263$, $t = 4.264$, $p < .001$). The positive beta coefficient indicates that higher levels of psychosocial work environment were associated with higher levels of quality of health care. The significance level suggests that the observed relationship was unlikely to have occurred by chance.

The findings further indicate that the psychosocial work environment was associated with variations in the quality of health care across Health Centre IV facilities. The adjusted coefficient of determination (Adjusted $R^2 = .464$) indicates that the psychosocial work environment accounted for 46.4% of the variation in quality of health care, suggesting that workplace conditions are closely associated with the quality of services delivered in the participating Health Centre IVs.

The observed relationship may be explained by the nature of healthcare service delivery, which depends largely on the interactions between health workers and patients. Health workers operating in environments characterized by supportive workplace climates, balanced work demands, and appropriate recognition are more likely to remain motivated, communicate effectively, collaborate with colleagues, and respond promptly to patients' needs. Within the Ugandan Health Centre IV context, where health facilities frequently experience staffing shortages, heavy workloads, and resource constraints, favorable psychosocial work environments may help health workers cope with workplace challenges and maintain acceptable standards of patient care. Consequently, facilities that promote supportive psychosocial conditions are more likely to be associated with higher levels of effectiveness, patient-centredness, patient safety, and patient satisfaction.

The findings are consistent with the Donabedian Model, which suggests that organizational conditions within health facilities are associated with the quality of healthcare services delivered. The findings are also consistent with Aiken et al. (2018), who reported that positive workplace environments were associated with improved patient safety, patient-centred care, and effectiveness of health services. Similarly, Rosen et al. (2018) found that supportive workplace climates were associated with improved teamwork and communication, which are important elements of quality health care.

The results therefore provide support for Hypothesis 1, which stated that the psychosocial work environment has a positive and significant influence on the quality of health care in Health Centre IVs in South Western Uganda.

Moderating Effect of Health Centre Characteristics on the Relationship between Psychosocial Work Environment and Quality of Health Care.

Structural Equation Modelling (SEM) was performed using AMOS to examine the moderating role of health centre characteristics in the relationship between psychosocial work environment and quality of health care. The structural model comprised direct paths from psychosocial work environment and health centre characteristics to quality of health care together with an interaction construct representing the moderating effect of health centre characteristics. The significance of the interaction path was used to determine whether moderation existed. Before interpreting the structural relationships, the adequacy of the model was assessed using the χ^2/df ratio, Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Goodness-of-Fit Index (GFI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). The structural model included direct paths from psychosocial work environment and health centre characteristics to quality of health care together with an interaction term representing the moderating effect of health centre characteristics. Moderation was assessed by examining the statistical significance of the interaction path. Before interpreting the structural relationships, model fit indices were examined to determine whether the proposed model adequately represented the observed data. The results are presented in Table 9.

Table 9: Structural Model Results

Structural Path	Beta	C.R.	p-value
Psychosocial Work Environment → Quality of Health Care	.507	1.798	.000
Health Centre Characteristics → Quality of Health Care	.161	1.130	.000
Psychosocial Work Environment × Health Centre Characteristics → Quality of Health Care	.235	1.405	.000
Model Fit Statistics			
Fit Index	**Value**	**Recommended Threshold**	
χ^2	50.1	Lower values preferred	
df	42	-	
χ^2/df	1.19	< 3.00	
CFI	.961	> .90	
TLI	.953	> .90	
GFI	.941	> .90	
RMSEA	.036	< .08	
SRMR	.041	< .08	
R Square	.338		

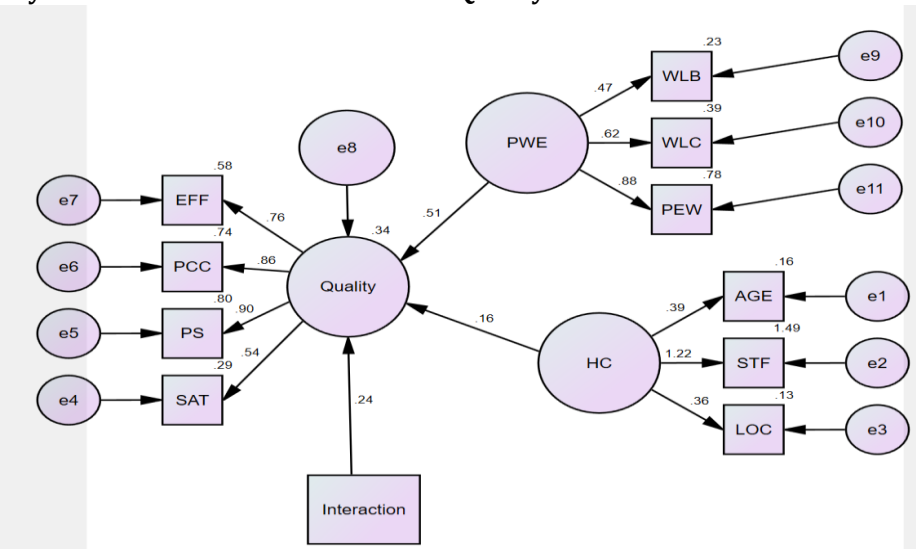
Source: Primary Data (2025)

The model fit statistics indicate that the structural model adequately represented the observed data. The χ^2/df ratio of 1.19 was below the recommended threshold of 3.00, while the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Goodness-of-Fit Index (GFI) exceeded the recommended threshold of .90. Similarly, the Root Mean Square Error of Approximation (RMSEA) and the Standardized Root Mean Square Residual (SRMR) were below .08, indicating that the proposed structural model adequately represented the observed data. The structural model revealed that the psychosocial work environment had a positive and statistically significant relationship with quality of health care ($\beta = .507$, $p < .001$). Health centre characteristics also had a positive and statistically significant relationship with quality of health care ($\beta = .161$, $p < .001$).

Most importantly, the interaction term between psychosocial work environment and health centre characteristics was positive and statistically significant ($\beta = .235$, $p < .001$). The statistically significant interaction coefficient confirmed that health centre characteristics moderated the relationship between psychosocial work environment and quality of health care. The positive interaction coefficient indicates that the positive relationship between the psychosocial work environment and the quality of health care became stronger as health centre characteristics became more favorable. These findings suggest that improvements in the psychosocial work environment are more strongly associated with quality of health care in Health Centre IVs characterized by favorable staffing composition, years of operation, and facility location than in facilities with less favorable characteristics.

The finding is consistent with Meath et al. (2022), who observed that organizational context influences the relationship between workplace conditions and quality of health care. Similarly, Aust et al. (2023) reported that supportive psychosocial work environments are more strongly associated with improved service quality where organizational conditions facilitate employee performance. The results therefore supported Hypothesis 2**,** which stated that health centre characteristics significantly moderate the relationship between psychosocial work environment and quality of health care in Health Centre IVs in South Western Uganda. The structural model illustrating the moderating relationship is presented in Figure 2**.**

Figure 2: Moderating role of Health Centre Characteristics moderating the relationship between Psychosocial Work Environment and Quality of Health Care



5. Conclusion and Recommendations

This study examined the influence of psychosocial work environment on quality of health care and assessed the moderating role of health centre characteristics in Health Centre IVs in South Western Uganda. The findings established that the psychosocial work environment has a positive and significant influence on the quality of health care. Facilities characterized by a favorable workplace climate, effective work-life balance practices, and appropriate reward systems were more likely to report higher levels of effectiveness, patient-centred care, patient safety, and patient satisfaction.

The study further established that health centre characteristics significantly moderate the relationship between psychosocial work environment and quality of health care. The positive interaction effect indicates that the contribution of the psychosocial work environment to the quality of health care becomes stronger in facilities with favorable staffing composition, operational experience, and supportive facility conditions. The findings demonstrate that workplace conditions and health centre characteristics jointly influence the quality of health care in Health Centre IV facilities.

The study concludes that the psychosocial work environment is an important organizational factor in improving the quality of health care. The findings further indicate that improvements in workplace conditions are more likely to produce greater improvements in the quality of health care when supported by favorable health centre characteristics.

Recommendations

Health Centre IV management should strengthen the psychosocial work environment through initiatives that promote positive workplace climate, supportive supervision, effective communication, and teamwork among health workers. Creating an environment where employees feel supported and valued may enhance their commitment to service delivery and improve the quality of health care. Health facility administrators should develop strategies that promote work-life balance among health workers. These strategies may include equitable workload distribution, adequate staffing arrangements, flexible scheduling where feasible, and mechanisms for addressing workplace stress. Such interventions may contribute to improved employee well-being and enhance the quality of care provided to patients.

The Ministry of Health and district health authorities should strengthen reward and recognition systems within Health Centre IV facilities. Formal recognition of employee contributions, opportunities for professional growth, and performance-based incentives may improve staff motivation and encourage behaviors that

support the quality of health care. Health sector managers should address structural conditions within Health Centre IV facilities by improving staffing composition, strengthening operational support systems, and addressing facility-level constraints that may limit service delivery. Improvements in health centre characteristics will enhance the ability of psychosocial workplace initiatives to contribute to the quality of health care.

Future interventions aimed at improving the quality of health care should integrate both psychosocial and structural dimensions of health facility management. Focusing on the psychosocial work environment alone may not yield maximum benefits if facility characteristics remain constrained. A combined approach is therefore necessary to strengthen the quality of health care within Health Centre IV facilities in South Western Uganda.

Contribution to Knowledge

This study contributes to the existing literature by providing empirical evidence that the psychosocial work environment significantly influences the quality of health care in Health Centre IV facilities. The study further extends existing knowledge by demonstrating that health centre characteristics significantly moderate the relationship between psychosocial work environment and quality of health care. These findings contribute to a better understanding of how workplace conditions and facility characteristics interact in influencing the quality of health care within primary health care facilities in developing country settings.

References

Aiken, LH., Sloane, DM., Barnes, H., Cimiotti, JP., Jarrín, OF. & McHugh, MD. (2018). Nurses' And Patients' Appraisals Show Patient Safety in Hospitals Remains A Concern. Health Aff (Millwood). 37(11), 1744-1751. doi: 10.1377/hlthaff.2018.0711. PMID: 30395515; PMCID: PMC6325635.

Aust, B., Møller, J. L., Nordentoft, M., Frydendall, K. B., Bengtsen, E., Jensen, A. B., Garde, A. H., Kompier, M., Semmer, N., & Rugulies, R. (2023). How effective are organizational-level interventions in improving the psychosocial work environment, health, and retention of workers? A systematic overview of systematic reviews. *Scandinavian Journal of Work, Environment & Health*, *49*(5), 315

Apiyo, R., Okeyo, I., & Wanjala, C. (2022). Workplace environment and health worker motivation in East African public health facilities. BMC Health Services Research, 22(1), 1124.

Atumanya, P., Taremwa, I. M., & Mugisha, J. (2024). Occupational stress, emotional exhaustion and health worker performance in public health facilities in Uganda. BMC Health Services Research, 24(1), 518.

Aust, B., Rugulies, R., Finken, A., & Jensen, C. (2023). Psychosocial work environment and employee well-being: Current evidence and future directions. International Journal of Environmental Research and Public Health, 20(5), 4123.

Bakker, A. B., & Demerouti, E. (2017). Job Demands–Resources Theory: Taking stock and looking forward. Journal of Occupational Health Psychology, 22(3), 273–285.

Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. Human Relations, 61(8), 1139–1160. https://doi.org/10.1177/0018726708094863

Brand, C. A., Barker, A. L., Morello, R. T., Vitale, M. R., Evans, S. M., Scott, I. A., Cameron, P. A., & Stoelwinder, J. U. (2012). A review of hospital characteristics associated with improved performance. International Journal for Quality in Health Care, 24(5), 483–494.

Donabedian, A. (1988). The quality of care: How can it be assessed? JAMA, 260(12), 1743–1748.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). Multivariate data analysis (8th ed.). Cengage Learning.

Hategeka, C., Shoveller, J., Tuyisenge, L., & Kenyon, C. (2020). Improving the quality of health care in low- and middle-income countries: A systematic review. BMJ Global Health, 5(8), e002882.

Hussein, M., Pavlova, M., Ghalwash, M., & Groot, W. (2021). The impact of hospital accreditation on the quality of healthcare: A systematic literature review. BMC Health Services Research, 21(1), 1057.

Kline, R. B. (2016). Principles and practice of structural equation modeling (4th ed.). Guilford Press.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30(3), 607–610.

Kruk, M. E., Gage, A. D., Arsenault, C., Jordan, K., Leslie, H. H., Roder-DeWan, S., Adeyi, O., Barker, P., Daelmans, B., Doubova, S. V., English, M., Elorrio, E. G., Guanais, F., Gureje, O., Hirschhorn, L. R., Jiang, L., Kelley, E.,

Lemango, E. T., Liljestrand, J., ... Pate, M. (2018). High-quality health systems in the Sustainable Development Goals era: Time for a revolution. The Lancet Global Health, 6(11), e1196–e1252.

McCullough, M. B., Zimmerman, F. J., & Fielding, J. E. (2023). Revisiting the Donabedian framework for health care quality assessment. Health Services Research, 58(2), 245–257.

Meath, T. H. A., Lin, X., & Zhao, J. (2022). Organisational context and quality improvement in health care: A systematic review. International Journal for Quality in Health Care, 34(2), mzac018.

Ministry of Health Uganda. (2023). Annual health sector performance report 2022/2023. Ministry of Health.

Ministry of Health Uganda. (2024). Annual health sector performance report 2023/2024. Ministry of Health.

Rosen, M. A., DiazGranados, D., Dietz, A. S., Benishek, L. E., Thompson, D., Pronovost, P. J., & Weaver, S. J. (2018). Teamwork in healthcare: Key discoveries enabling safer, high-quality care. American Psychologist, 73(4), 433–450.

Salas, E., Reyes, D. L., & Woods, A. L. (2018). The assessment of team performance: Observations and needs. *Current Opinion in Psychology,* 16, 34–40.

Schaufeli, W. B. (2017). Applying the Job Demands–Resources model: A 'how to' guide to measuring and tackling work engagement and burnout. Organizational Dynamics, 46(2), 120–132.

Silvera, G. A. (2017). The moderating effect of hospital size on the relationship between patient experience and patient safety. Health Care Management Review, 42(3), 202–211.

Tossaint-Schoenmakers, R., Versluis, A., Chavannes, N. H., Talboom-Kamp, E., & Kasteleyn, M. J. (2021). The challenge of integrating the Donabedian model into modern healthcare quality improvement. International Journal for Quality in Health Care, 33(4), mzab128.

Vanichchinchai, A. (2021). Hospital characteristics, lean implementation and service quality in Thai hospitals. International Journal of Lean Six Sigma, 12(6), 1205–1224.

Vaughn, V. M., Saint, S., Krein, S. L., Forman, J., Meddings, J., Ameling, J., & Chopra, V. (2019). Characteristics of healthcare organisations struggling to improve quality: A systematic review. BMJ Quality & Safety, 28(1), 74–84.

World Health Organization. (2021). Global strategy on human resources for health: Workforce 2030. World Health Organization.

World Health Organization. (2022). Quality health services: A planning guide. World Health Organization.

Yang, X., Li, Y., & Chen, H. (2025). Organisational factors and quality improvement in primary healthcare: A multilevel analysis. International Journal for Quality in Health Care, 37(1), mzae001.

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Data Availability Statement: The data supporting the findings of this study are available from the author upon reasonable request.