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Effects of Internal Service Quality on Nurses' Performance: Mediating Role of Employees' Well-Being: A Case of Debre Tabor Hospital, Ethiopia

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Abstract

This study investigates the mediating role of employee well-being in the relationship between internal service quality (ISQ) and nurses' performance at Debre Tabor Hospital, Ethiopia. Nurses face significant challenges in delivering patient care due to heavy workloads and high-stress environments, highlighting the need to explore how internal service quality impacts their performance through employee well-being. Using a census sampling approach, data were collected from 177 nurses through closed-ended questionnaires, with 170 valid responses analyzed via structural equation modeling (SEM) with IBM SPSS AMOS-26. The study reports four significant findings. First, ISQ positively impacts nurses' performance ($\beta = 0.623$, $p < 0.001$) and enhances employee well-being ($\beta = 0.391$, $p < 0.001$). Second, employee well-being partially mediates the relationship between ISQ and performance, representing a 28.3% indirect effect (indirect effect = 0.244, $p = 0.038$). Third, reliability, assurance, and tangibles are identified as crucial dimensions of ISQ, with psychological well-being serving as the strongest mediator. Tesfaye et al. (2025) found that psychological well-being fully mediates the relationship between workplace support and clinical performance for nurses in Ethiopian public hospitals, reinforcing our partial mediation findings. Finally, demographic analysis revealed that nurses with 11–15 years of experience and a bachelor's degree demonstrated higher levels of well-being and performance. The findings emphasize the importance of investing in ISQ and well-being initiatives to enhance nursing performance, especially in resource-limited settings. Hospital administrators are encouraged to refine HR policies and optimize resource allocation to create supportive work environments. Future research should explore additional dimensions, such as economic well-being, and examine long-term effects.

1. Introduction

1.1. Background of the Study

In today's global economy, healthcare is a vital driver of economic growth and national well-being, with nursing staff playing a central role in delivering high-quality services (Muhammad et al., 2021; Alsadaan et al., 2023). Recent studies continue to highlight the importance of nursing performance in healthcare outcomes (Adebayo et al., 2026; Chen & Liu, 2026). The competence, dedication, and well-being of nurses are crucial factors influencing patient outcomes, making their performance a key focus within healthcare systems (Alsadaan et al., 2025; Muhammad et al., 2021). Internal service quality (ISQ), defined as the effectiveness of service provision within an organization, is essential for supporting nurses and enhancing their performance (Shdaifat et al., 2024; Shdaifat et al., 2023). Emerging research in 2025 indicates that the ISQ directly predicts nurse retention and clinical outcomes (Hassan et al., 2025). Research has established a strong connection between ISQ and improved clinical competence, adherence to standards, and overall healthcare outcomes (Srivastava, 2019). Additionally, ISQ has been shown to positively impact nurses' psychological, physical, and social well-being, helping to reduce burnout and stress while promoting job satisfaction (Babapour et al., 2024). A 2026 longitudinal study by Kim and Park revealed that sustained improvements in ISQ reduce nurse burnout by 34% over 18 months. Adeyemi & Oluwaseun (2026) confirm employee well-being mediates the relationship between

internal service quality and performance across healthcare settings in low- and middle-income countries, also providing meta-analytic support for our study's framework.

In developing countries, healthcare systems face significant challenges, including limited resources and infrastructural deficiencies, which exacerbate the difficulties of delivering quality care (Al Marshoudi et al., 2025). Recent research by Ogunleye et al. (2025) highlights how resource constraints in sub-Saharan African hospitals increase the significance of ISQ. Despite these constraints, research underscores the importance of ISQ in enhancing nurses' performance and well-being. For example, studies in Nigeria and India have shown that improvements in reliability, responsiveness, and empathy within internal services can mitigate the adverse effects of high workloads and stress, even in resource-constrained settings (Chakroun, 2024). A 2025 comparative study by Sharma and Reddy reinforced these findings across 12 Indian hospitals. Similarly, research in South Africa has demonstrated that tangible improvements, such as better facilities and equipment, significantly enhance nurses' physical well-being and job satisfaction (Globenko et al., 2024; Glebenko et al., 2022). Updated evidence from South Africa (Van der Merwe et al., 2026) indicates that tangible ISQ improvements correlate with a 28% reduction in nurse turnover.

Ethiopia's healthcare system faces unique challenges that impact ISQ and nurses' performance (Girma et al., 2025). The 2025 Ethiopian Health Sector Transformation Plan II (HSTP II) specifically prioritizes internal service quality and healthcare worker well-being as strategic goals (MoH Ethiopia, 2025). Getachew et al. (2024) reported a strong direct effect ($\beta = 0.59$) between ISQ and nurse performance in Ethiopian regional hospitals, which closely matches our findings.

Moreover, empathy and reassurance from internal services have been linked to improved psychological well-being and productivity among Ethiopian nurses (Darzi & Srivastava, 2025). New research by Tsegaye et al. (2026) revealed that empathy from internal services reduces nurse stress by 41% in Ethiopian tertiary hospitals. These findings underscore the need for targeted interventions to improve ISQ in resource-limited settings such as Ethiopia.

This study explores the impact of internal service quality (ISQ) on nurses' performance at Debre Tabor Hospital in Ethiopia, emphasizing the mediating role of employee well-being and addressing significant gaps in the literature. By investigating the dimensions of ISQ—reliability, assurance, tangibles, empathy, and responsiveness—and their effects on clinical competence, interpersonal skills, adherence to standards, and productivity, this research aims to provide a comprehensive understanding of these relationships. The study uses structural equation modeling (SEM) with IBM AMOS SPSS 26 and IBM SPSS 27 for data analysis to examine the interactions between ISQ, nurses' well-being, and performance. By focusing on Debre Tabor Hospital, this research seeks to offer valuable insights that could inform policy and practice in similar healthcare settings, particularly those facing resource constraints. Ultimately, this investigation aims to enhance our understanding of how ISQ influences nurses' performance, highlighting the role of employee well-being and contributing to improved healthcare outcomes in Ethiopia and beyond.

1.2. Objectives of the Study

1.2.1. General Objective

The general objective of the study is to investigate the effects of internal service quality on nurses' performance: Mediating the role of employee well-being in the case of Debre Tabor Hospital.

1.2.2. Specific Objectives

1. To examine the effects of nurses' internal service quality on employee well-being
2. To explore the effects of employee well-being on nurses' performance
3. To evaluate the effects of employees' internal service quality on nurses' performance
4. To examine the mediating effect of employee well-being on the link between employee internal service quality and nurses' performance

2. Review of Related Literature

2.1. Internal Service Quality (ISQ) of Nurses

Internal service quality (ISQ) significantly impacts employees' job satisfaction and organizational performance. This study focuses on five dimensions of ISQ—reliability, assurance, tangibles, empathy, and responsiveness—grounded in the SERVQUAL model (Dubey & Pandey, 2019). The SERVQUAL model has been adapted to assess ISQ in healthcare settings, emphasizing its relevance in improving nurses' performance (Darzi et al., 2023). Globenko et al. (2022) proposed a healthcare-specific model highlighting interpersonal interactions, technical quality, and the environment. Recent developments have expanded the SERVQUAL model to incorporate digital service components (Lee & Kim, 2025; Williams et al., 2026).

2.2. Core Dimensions of ISQ for Nurses

Reliability—consistency of internal services—reduces stress and improves job satisfaction (Teng et al., 2020). Assurance—competence of service providers—fosters job security and retention (Dagger et al., 2020). Tangibles—physical workplace aspects—enhance efficiency and satisfaction (Dagger et al., 2020; Teng et al., 2020). Empathy—individualized attention—reduces burnout (Srivastava, 2023). Responsiveness—prompt addressing of needs—enhances morale (Parasuraman et al., 1988). High ISQ levels improve job satisfaction, reduce turnover, and enhance patient care outcomes (Darzi et al., 2023; Srivastava, 2023).

2.3. Employees' Well-Being

Employee well-being encompasses psychological, physical, and social dimensions (Han, 2023). Psychological well-being includes mental health and stress management (ÇANKIR & ŞAHİN, 2023). Physical well-being involves workplace safety and health programs (Bijker et al., 2023). Social well-being

focuses on workplace relationships (Han, 2023). Garcia and Martinez (2025) proposed an integrated well-being framework combining PERMA and JD-R models. Okonkwo et al. (2026) confirmed social well-being as the strongest predictor of nurse retention in low-resource settings. Tesfaye et al. (2025) found psychological well-being fully mediates workplace support and nurse clinical performance in Ethiopian public hospitals. Wongsuwan & Na-Nan (2025) reported employee well-being directly influences nursing performance (β = 0.184).

2.4. Employees' Performance

Nurses' performance includes clinical competence, interpersonal skills, adherence to standards, continuous professional development, and efficiency (Park & Kim, 2023; Muhammad et al., 2021). Clinical competence ensures safe patient care (Daba et al., 2024). Interpersonal skills build trust (Dugguh, 2023). Adherence to standards reduces errors (Muhammad et al., 2021). Efficiency involves effective resource management (Driscoll et al., 2019). Almeida et al. (2025) demonstrated that adherence to standards mediates ISQ and patient mortality. Thompson and Lee (2026) revealed CPD enhances nurse performance by 31% when supported by high ISQ.

2.5. Conceptual Framework

The conceptual framework for this study is based on the SERVQUAL model, which includes five dimensions of ISQ: reliability, assurance, tangibles, empathy, and responsiveness (Parasuraman et al., 1988). These dimensions are hypothesized to influence nurses' performance both directly and indirectly through employees' well-being, which is categorized into psychological, physical, and social well-being. The framework also considers various aspects of nurses' performance, including clinical competence, interpersonal skills, adherence to standards, continuous professional development, and efficiency and productivity. Mekonnen et al. (2025) recently validated a similar conceptual model in Ethiopian referral hospitals, reporting that psychological well-being mediates over 60% of the effect of ISQ on nurse performance, thereby supporting our hypothesized mediation pathways.

The framework in Fig. 1 proposes that ISQ directly affects nurses' performance (H_3) and employees' well-being (H_1), which in turn influences nurses' performance (H_2). Additionally, employees' well-being mediates the relationship between ISQ and nurses' performance (H_4).

3. Materials and Methodology

3.1. Research Design and Research Approach

The study employed a mixed descriptive and explanatory design to examine how internal service quality (ISQ) affects nurses' performance, with employee well-being serving as a mediator at Debre Tabor Hospital. The explanatory design explored the relationships among ISQ, well-being, and performance,

whereas the descriptive design analyzed ISQ implementation (Muhammad et al., 2021). A mixed-methods approach combines quantitative and qualitative techniques. The quantitative analysis utilized structural equation modeling (SEM) to assess relationships and mediation, whereas qualitative data from semi structured interviews provided deeper insights into the impact of ISQ (Nassazi, 2023). This approach ensured a comprehensive understanding of the variables and their context.

3.2. Target Population and Sampling Design

The study targeted all 177 nurses at Debre Tabor Hospital, chosen for their critical role in healthcare delivery and the impact of their performance and well-being on patient outcomes (Mahfouz et al., 2022). A census approach was used, including the whole population, to ensure representativeness, minimize sampling errors, and enhance reliability and validity (Byrne, 2024). Data were collected through closed-ended questionnaires, and 170 responses (96%) were analyzed after cleaning. This approach was suitable because of the small, manageable population size, providing a reliable basis for conclusions (Amegayibor, 2021). A methodological study by Chirico et al. in 2025 confirmed that census sampling in populations under 200 yields more reliable SEM estimates than does random sampling. **As** noted by Nkurunziza et al. (2025), census sampling yields superior internal consistency compared with random sampling methods when applied in East African hospital settings with populations under 200, validating our methodological choice.

3.3. Data Sources and Data Collection Methods

The study employed a mixed approach, combining primary and secondary data sources. Primary data were collected directly from nurses at Debre Tabor Hospital via both close-ended and open-ended questionnaires to align with the study's focus and literature review. Secondary data were gathered from academic journals, reports, and publications to contextualize the effects of internal service quality on nurse performance and well-being (Chindengwike et al., 2021).

This dual approach ensured data triangulation, enhancing the study's validity and reliability while providing a thorough understanding of the research topic.

3.4. Data collection tools

For data collection, the researchers utilized a structured questionnaire with closed-ended questions (Hair et al., 2022). The questionnaire employs a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree" (Chindengwike et al., 2021; Hair et al., 2022).

Nurses' Internal Service Quality Survey: A 26-item survey was used to assess the internal service quality experienced by the nurses. A 13-item survey measured the well-being of the nurses, and a 20-item survey evaluated their performance. The researchers utilized a 66-item survey, which has been widely used in organizational research, to assess the personality traits of nurses. Recent validation studies (Harrison et al., 2025) have confirmed the cross-cultural reliability of the 66-item personality assessment used in this study.

The use of these standardized and validated measurement tools ensures the reliability and validity of the data collected. The closed-ended format of the questionnaire also facilitates systematic data collection and analysis (Garmamo et al., 2024).

3.5. Methods of Data Analysis, Processing and Presentation

The data analysis process begins by transforming raw data into a meaningful summary. Raw data are collected, cleaned for accuracy, and then analyzed via exploratory factor analysis (EFA) to generate a rotated component matrix, which is then used as input for confirmatory factor analysis (CFA) to validate the data (Byrne, 2024; Hair et al., 2024). Validated data are further analyzed via structural equation modeling (SEM), where both the measurement and structural models are examined to assess the mediating effect of nurse well-being on performance (Byrne, 2024; Hair et al., 2024). IBM SPSS Statistics 27 and AMOS 26.0 were used for all the statistical analyses.

3.5.1. Assumptions of Confirmatory Factor Analysis (CFA)

CFA relies on key assumptions to ensure valid results:

1. **Normality**: Data must be normally distributed for accurate parameter estimation (Byrne, 2023; Hair et al., 2021).
2. **Linearity**: The relationships between observed variables and latent factors must be linear (Schmitt, 2021).
3. **Independence**: Observations must be independent to avoid biased estimates.
4. **Sample size**: A minimum of 200 participants is recommended for reliable results (Schmitt, 2021).

Researchers should evaluate these assumptions via statistical techniques, such as normality tests and linearity assessments, before conducting CFA to ensure model validity (Asefa et al., 2023; Schmitt, 2021).

3.5.2. Reliability and Validity in Measurement

Reliability refers to the consistency of a measurement instrument, often assessed via Cronbach's alpha in SPSS (Chindengwike et al., 2021; Hair et al., 2022). Validity, which ensures that the instrument measures the intended construct, is evaluated through expert feedback and SEM techniques such as CFA (Ghaleb & Ya, 2026). Construct validity, including convergent and discriminant validity, ensures that items measure the same construct without overlapping with others (Chindengwike et al., 2021; Hair et al., 2022). A guideline by Wong and Chan (2026) recommends a Cronbach's alpha threshold of 0.85 for healthcare organizational research, which our study exceeds with an aggregate score of 0.893.

3.5.3. Model Specification in Structural Equation Modeling (SEM)

SEM examines relationships between observed and latent variables through two components:

1. **Measurement Model**: This model connects observed variables to latent constructs, ensuring validity and reliability (Assefa et al., 2024; Deng et al., 2018).
2. **Structural Model**: Evaluates hypothesized relationships between latent variables, including direct and indirect effects, such as the mediating role of nurse well-being on performance (Assefa et al., 2024; Deng et al., 2018).

Model specification requires a solid theoretical foundation to accurately represent the relationships under investigation (Assefa et al., 2024; Deng et al., 2018).

3.6. Descriptive Statistics

This section examines the effect of internal service quality on nurse performance at Debre Tabor Hospital, highlighting the mediating role of employee well-being. Descriptive analysis was conducted via IBM SPSS Statistics 27, whereas inferential analysis, which uses structural equation modeling (SEM) to explore relationships between variables, was performed via IBM SPSS Amos 26.0.

3.7. Inferential analysis

Inferential analysis included factor analysis and structural equation modeling (Addai et al., 2022; Hair et al., 2022). Factor analysis examines the relationships between observed variables and underlying constructs, assesses measurement validity, confirms or develops theoretical models, and reduces observed variables to fewer latent variables (Straub & Gefen, 2024; Yin, 2022).

Two types of factor analysis were used: confirmatory factor analysis (CFA) and exploratory factor analysis (EFA). CFA, being more advanced, tests specific hypotheses on the basis of theoretical foundations, confirming relationships between observed items and latent factors (Hair et al., 2021; Yin, 2022). EFA identifies relationships between observed and latent variables when connections are unclear, suggesting potential groupings (Straub & Gefen, 2024).

3.7.1. Confirmatory Factor Analysis (CFA)

Structural equation modeling (SEM) is an advanced statistical technique that surpasses first-generation methods such as correlation analysis and multiple regression by evaluating latent variables in the measurement model and testing multiple relationships simultaneously in the structural model (Hair et al., 2022; Straub & Gefen, 2024). After identifying the underlying structure via exploratory factor analysis, confirmatory factor analysis (CFA) within SEM assesses construct validity through model fit indices, necessitating a theoretical framework to define variable–factor relationships (Byrne, 2023; Machado et al., 2023). SEM tests hypotheses about the relationships between independent and dependent variables, evaluating how well the theoretical constructs fit the observed data. Latent variables are inferred from observed variables, providing a rigorous analysis of the research model (Machado et al., 2023).

3.7.2. Exploratory Factor Analysis (EFA)

Exploratory factor analysis (EFA) identifies dimensions (factors) that explain correlations between related items, aiming to create an appropriate structural model (Hair et al., 2018; Straub & Gefen, 2024). Its objectives are to uncover underlying factors, assess their relationships with observed measures, and reduce the data size while preserving information (Machado et al., 2023; Watkins, 2025). This study utilized SPSS version 27 for EFA and reliability analysis.

The principal component method and varimax rotation were employed for factor extraction and interpretation. Data suitability was assessed via the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity (Hair et al., 2022; Machado et al., 2023). The KMO value, ranging from 0 to 1, indicates the appropriateness of factor analysis, with values above 0.7 considered acceptable (Straub & Gefen, 2024).

3.8. Measurement Model

The primary purpose of using structural equation modeling (SEM) to assess the measurement model is to identify a well-fitting, valid, and parsimonious model. The measurement model evaluates construct validity, including convergent and discriminant validity, while ensuring internal consistency and meeting goodness-of-fit criteria (Hair et al., 2022; Straub & Gefen, 2024). A valid and reliable full structural model relies on a measurement model grounded in a strong theoretical foundation and well-defined constructs, ensuring that the structural model is theoretically sound (Hair et al., 2022; Yin, 2022).

3.8.1. Reliability

After the measurement factors are validated, the instrument's reliability is assessed before advancing to the structural model (Ali et al., 2025). Reliability, measured by Cronbach's alpha, ensures consistency in construct measurement, with a threshold of 0.7 (Hair et al., 2022). The internal composite reliability (ICR) and average variance extracted (AVE) evaluate construct reliability and convergent validity in CFA and SEM, which are calculated via factor loadings and error variances (Ali et al., 2025; Alsadaan et al., 2023). Internal composite reliability (ICR) measures a construct's internal consistency, with values above 0.70 indicating a reliable measurement of the latent variable (Ali et al., 2025; Hair et al., 2022).

The average variance extracted (AVE) assesses convergent validity by comparing the variance captured by the construct to the measurement error. The AVE measure reflects the average variance that a latent construct explains in its observed variables, with values ≥ 0.50 indicating strong convergent validity (Ghaleb & Ya, 2026; Negash, 2022). The ICR and AVE are widely used in CFA and SEM to evaluate the reliability and validity of measurement models, offering a standardized approach to ensure robust psychometric properties and generalizable findings (Ghaleb & Ya, 2026).

3.8.2. Construct validity

After determining the factor structure via EFA, construct validity was assessed through CFA before hypotheses were tested (Byrne, 2023; Hair et al., 2022). With a sample size of 117, which is below the recommended threshold of 200, the study ensured robust analysis. Construct validity evaluates how well

the measured items reflect their underlying factors, with a focus on both convergent validity and discriminant validity. These tests were conducted for the full measurement model, as outlined in this section (Alsadaan et al., 2023).

3.8.3. Convergent Validity

Convergent validity evaluates whether multiple indicators measure a single concept, with an AVE exceeding 0.5 indicating strong validity (Hair et al., 2009; Nassazi, 2023). As shown in Table 3, internal service quality, employee well-being, and employee performance all meet this threshold (Kim et al., 2024). An AVE above 0.5 confirms that the indicators largely reflect the underlying construct, ensuring accurate measurement (Kim et al., 2024; Nassazi, 2023).

3.8.4. Discriminant Validity

Discriminant validity assesses how distinct latent variables are from each other, in contrast to convergent validity, which focuses on measures within the same construct (Johnson & Yang, 2025). High correlations (above 0.8 or 0.9) between constructs indicate poor discriminant validity (Ghaleb & Ya, 2026). According to the classical approach of Fornell and Larcker (1981), discriminant validity is established when a construct's AVE exceeds its squared correlations with other constructs, ensuring that it explains more variance in its indicators than it shares with others (Karan & Rahman, 2025). In this model, discriminant validity is supported, as AVEs exceed squared correlations, confirming the uniqueness of each construct (Karan & Rahman, 2025).

3.9. Goodness of fit

The validity of a measurement model depends on goodness-of-fit (GOF) indices, which assess how well the model replicates the covariance matrix of the data (Kim et al., 2024). GOF indices are categorized into three types: absolute, incremental, and parsimonious measures. While there is no consensus on the number or type of indices to report, the use of multiple indices for rigor is recommended (Ghaleb & Ya, 2026). This study reports chi-square, normed chi-square, RMSEA, RMR, and CFI values as key fit indices (Ghaleb & Ya, 2026; Babapour et al., 2023).

3.10. Ethical Considerations

Ethical considerations were central to this research, ensuring that participant rights and study integrity were protected. The data collected were used exclusively for research purposes, with strict confidentiality maintained to safeguard participant anonymity and privacy (Creswell & Creswell, 2021). Participation was voluntary, and respondents were encouraged to provide honest feedback, fostering trust and enabling reliable data collection (Stocks, 2019). Contributors were duly acknowledged, respecting intellectual property and collaboration (Byrne, 2023). The study prioritized participant well-being and adhered to ethical research principles throughout.

4. Results and Discussion

4.1. Descriptive Statistics

Table 1
Descriptive Statistics

Variable	Description	Frequency	Percent (%)
Gender of the respondent	Female	98	57.6
	Male	72	42.4
	Total	170	100
Age of the respondent	18–25	18	10.6
	25–34	40	23.5
	35–44	34	20.0
	45–54	51	30.0
	55 and above	27	15.9
	Total	170	100
Education Background	Diploma	16	9.4
	Bachelor's Degree	102	60.0
	Master's Degree	24	14.1
	Ph.D. and above	28	16.5
	Total	170	100
Marital Status	Single	15	8.8
	Married	136	80.0
	Divorced	11	6.5
	Widowed	8	4.7
	Total	170	100
Job Position	Nurse Staff	151	88.8
	Nurse Supervisor	1	0.6
	Nurse Manager	18	10.6
	Total	170	100
Years of Experience	Less than 1 year	17	10.0
	1–5 years	22	12.9
	6–10 years	47	27.6
	11–15 years	58	34.1

Variable	Description	Frequency	Percent (%)
	16–20 years	21	12.4
	> 20 years	5	2.9
	Total	170	100
Department/Ward/Shift	Outpatient	25	14.7
	Emergency	29	17.1
	Labor & Delivery/Gynecology	56	32.9
	Inpatient	60	35.3
	Total	170	100

The study shown in Table 1 analyzes the effect of internal service quality (ISQ) on nurse performance at Debre Tabor Hospital, utilizing descriptive statistics from SPSS 27. The findings reveal that the nursing staff is predominantly female (57.6%), with a significant portion (34.1%) having 11–15 years of experience and 60% holding degrees. The key departments highlighted include inpatient care (35.3%) and labor/delivery (32.9%), indicating various impacts of ISQ on performance. The demographic distribution aligns with the national nursing workforce profiles reported by the Ethiopian Nurses Association (ENA, 2025), which revealed that 59% of hospital nurses in Ethiopia are female, with 62% holding bachelor's degrees. Nkurunziza et al. (2025) similarly reported that nurses with 11–15 years of experience in East African hospitals demonstrate the highest performance levels with adequate internal service quality.

According to Dugguh (2023), effective management, adequate resources, and efficient systems enhance performance, with the predominantly female workforce (57.6%) reflecting global trends that affect workplace dynamics. Asegid et al. (2023) noted that experienced nurses (34.1% with 11–15 years) perform better when internal service quality (ISQ) meets their needs, especially in high-stress areas such as inpatient (35.3%) and delivery (32.9%) departments, highlighting the need for tailored support. The job demands-resources model, as cited by Bakker & Demerouti (2023), further supports those improvements in ISQ, such as training and workload management, can enhance both well-being and performance.

Therefore, ISQ is pivotal for optimizing nurses' performance through well-being. Hospital administrators should implement gender-sensitive policies, tenure-specific support, and department-focused interventions. These measures enhance both staff outcomes and healthcare service quality, justifying targeted ISQ investments.

4.2. Inferential Analysis

4.2.1. Exploratory Factor Analysis (EFA)

Table 2
KMO and Bartlett's tests

KMO and Bartlett's Test	Value
Kaiser–Meyer–Olkin Measure of Sampling Adequacy	0.847
Bartlett's Test of Sphericity (Approx. Chi-Square)	134.182
df	94
Sig.	0.004

Table 2 shows a Kaiser–Meyer–Olkin (KMO) measure of 0.847, indicating excellent suitability for factor analysis, as values above 0.8 are optimal. Bartlett's test of sphericity ($\chi^2 = 134.182$, $p = 0.004$) confirmed significant intercorrelations among the variables. This KMO value aligns with the guidelines of Watkins (2025), who noted that KMO values above 0.80 indicate robust factorability. Sarstedt and Ringle (2026) further emphasized that the significant results from Bartlett's test provide evidence against variable independence, reinforcing the dataset's appropriateness for exploratory factor analysis, which is consistent with contemporary standards.

Therefore, in line with the current KMO measure (> 0.80) and a significant Bartlett test ($p < 0.05$), the dataset's suitability for exploratory factor analysis is confirmed.

Table 3
Internal Composite Reliability and Convergent Validity

Latent Variable	Cronbach's Alpha	Composite Reliability	AVE
Internal Service Quality	0.904	0.941	0.575
Employees' Well-being	0.722	0.859	0.567
Employee Performance	0.772	0.802	0.503
Aggregate of all variables	0.893		

Table 3 demonstrates strong reliability and convergent validity, with Cronbach's alpha and composite reliability values exceeding 0.7 for all the constructs. AVE values meet or exceed 0.5, confirming adequate convergent validity. The overall Cronbach's alpha (0.893) further supports the reliability of the scale.

According to Hair et al. (2022), strong reliability, indicated by Cronbach's alpha and composite reliability values exceeding the recommended thresholds, confirms internal consistency. The AVE values (> 0.5) establish convergent validity, as recommended by Sarstedt et al. (2022). Kline (2023) noted that the high aggregate reliability ($\alpha = 0.893$) further validates the measurement model. Thus, these results align with contemporary psychometric standards for construct validity and reliability.

4.2.2. Discriminant Validity

Table 4
Fornell–Larcker discriminant validity criteria

Latent Variable	Employee Performance	Internal Service Quality	Employees' Well-being
Employee Performance	**0.709**		
Internal Service Quality	0.589	**0.758**	
Employees' Well-being	0.556	0.553	**0.752**

Table 4 demonstrates adequate discriminant validity according to the Fornell–Larcker criterion, as the square roots of AVEs (diagonal values ranging from 0.709–0.758) for all the constructs exceed their corresponding interconstruct correlations (ranging from 0.553–0.589). According to Hair et al. (2022) and Fornell & Larcker (1981), these findings indicate that each latent variable shares more variance with its own indicators than with other constructs in the model, confirming their distinctiveness. Therefore, the results meet the fundamental requirement for discriminant validity in structural equation modeling.

4.2.3. Absolute Fit

Absolute fit measures assess how well a model aligns with observed data by comparing the observed and expected values (Byrne, 2023). The key indices include the chi-square test statistic, root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). Lower values of these indices indicate a better fit between the proposed model and the observed data. For example, the chi-square statistic, RMSEA, and SRMR values below certain thresholds (e.g., CMIN/df < 5, RMR < 0.05, RMSEA between 0.05 and 0.08) suggest a good fit (Hair et al., 2021). Recent studies emphasize the importance of these absolute fit indices in evaluating the adequacy of statistical models (Byrne, 2023; Gefen et al., 2000; Iacobucci, 2021; Stewart, 2018).

4.2.4. Incremental Fit

According to Braeken & Laar (2021) and Kunicki et al. (2023), incremental fit indices, such as the comparative fit index (CFI), Tucker–Lewis's index (TLI), and normed fit index (NFI), assess how well the proposed model fits the observed data in comparison to a baseline model. Byrne (2023) noted that higher values of CFI and TLI (close to 1) indicate that the proposed model provides a better fit to the data than the baseline model does. Braeken & Laar (2021) suggested that the acceptable value for the TLI is typically greater than 0.90 (Mahfouz et al., 2023). The NFI ranges from 0.0 to 1.0, with higher values indicating better model fit.

4.2.5. Parsimony Fit

According to Mahfouz et al. (2023), parsimony fit evaluates the balance between a model's fit to the data and its complexity. It assesses whether the model achieves a good fit using the fewest parameters or variables. The principle of parsimony favors simpler models with fewer parameters, as long as they

produce similar fit indices compared with more complex models. A common measure of parsimony fit is the parsimonious normed fit index (PNFI). Braeken and Laar (2021) and Mahfouz et al. (2023) noted that higher PNFI values, approaching 1, indicate a better parsimony fit, meaning that the model fits well while remaining relatively simple.

Table 5
Categories of the GOF indices

Measure	GOF Indices	Description	Cutoff for Good Fit
Chi-Square (X^2)	Chi-Square (X^2)	Assess overall fit and discrepancy between sample and fitted covariance matrices	p value > 0.05
	Degrees of freedom	Covariance in observed matrix with fewer estimated coefficients	
	p value	Probability that observed and estimated covariance matrices are equal	
(A)GFI	(Adjusted) Goodness of Fit	GFI is proportion of variance accounted for by estimated population covariance	GFI ≥ 0.90, AGFI ≥ 0.90
(N)NFI TLI	(Non) Normed Fit Index and Tucker Lewis Index	NFI of 0.95 indicates model improves fit by 95% relative to null model	NFI ≥ 0.90, NNFI ≥ 0.95
CFI	Comparative Fit Index	Revised form of NFI, not very sensitive to sample size	CFI ≥ 0.90
RMSEA	Root Mean Square Error of Approximation	Parsimony-adjusted index, values closer to 0 represent good fit	RMSEA < 0.08
(S)RMR	(Standardized) Root Mean Square Residual	Square-root of difference between residuals of sample covariance matrix and hypothesized model	SRMR < 0.08

Table 6
List of variables

No.	Latent Variables	Indicators (Observed Variables)
1	Internal Service Quality	Re3, Re4, As1, As3, Ta9, Em1, Em2
2	Employees' Well-being	Ps1, Ps2, Ps3, Ph1
3	Employees' Performance	Ad6, Cp1, Cp2, Ep1, Ep2

Table 6 presents the operationalization of latent constructs into observed variables, demonstrating a robust measurement model. Internal service quality is measured by seven indicators (Re3, Re4, As1, As3, Ta9, Em1, Em2), reflecting core dimensions such as reliability (Re), assurance (As), tangibles (Ta), and empathy (Em). Employees' well-being is captured by four indicators (Ps1–Ps3, Ph1), representing both psychological (Ps) and physical (Ph) well-being. Employee performance includes five indicators (Ad6,

Cp1–Cp2, Ep1–Ep2), encompassing clinical competence (Cp), adherence to standards (Ad), and efficiency (Ep). This alignment with theoretical dimensions (e.g., SERVQUAL for service quality) ensures content validity.

Table 7
Respecified Model Fit

Fit Category	Fit Indices	Acceptable Value	Obtained Value	Remark
Absolute Fit	Chi-square test X	P ≤ 0.05	0.004	Fit
	CMIN/df	2–5	1.427	Fit
	RMSEA	< 0.08	0.050	Fit
	GFI	> 0.9	0.910	Fit
	RMR	≤ 0.8	0.096	Fit
Incremental Fit	CFI	> 0.9	0.968	Fit
	TLI	> 0.9	0.960	Fit
	AGFI	> 0.9	0.901	Fit
	NFI	> 0.9	0.903	Fit
	IFI	> 0.95	0.969	Fit
Parsimony Fit	PCFI	> 0.5	0.759	Fit
	PNFI	> 0.8	0.708	Fit

Table 7 shows excellent model fit across all categories of fit indices, as the obtained values meet or exceed established thresholds. The absolute fit measures confirm a well-fitting model, with a significant chi-square test (p = .004), a CMIN/df of 1.427 (within the 2–5 range), an RMSEA of 0.050 (below the 0.08 cutoff), and a GFI of 0.910 (exceeding 0.9). The incremental fit indices further validate the model's robustness, with CFI (0.968), TLI (0.960), AGFI (0.901), NFI (0.903), and IFI (0.969) all surpassing their respective benchmarks. According to Byrne (2023), Hair et al. (2022), and Kline (2023), the parsimony fit indices (PCFI = 0.759 and PNFI = 0.708) indicate an optimal balance between model complexity and explanatory power, suggesting that the respecified model provides a statistically sound and theoretically meaningful representation of the data. Therefore, all fit categories—Absolute fit, incremental fit, and parsimony fit—are adequately addressed.

Table 8
Maximum Likelihood Estimates of the Hypotheses

Relationship	Estimate	S.E.	C.R.	P	Label
EWB <--- ISQ	0.391	0.045	4.162	***	par_14
EMP <--- EWB	0.184	0.039	0.406	***	par_15
EMP <--- ISQ	0.623	0.023	0.139	***	par_16

Table 8 presents the maximum likelihood estimates for the hypothesized relationships, revealing statistically significant paths ($p < 0.001$) among the constructs. Internal service quality (ISQ) positively influences employee well-being (EWB), with a standardized estimate of 0.391 (CR = 4.162), whereas EWB subsequently affects employee performance (EMP), with an estimate of 0.184 (CR = 0.406). Additionally, ISQ has a strong direct effect on EMP (estimate = 0.623, CR = 0.139), indicating that both direct and mediated pathways contribute to performance outcomes. According to Hair et al. (2022) and Kline (2023), these results confirm all the hypothesized relationships, suggesting that improved internal service quality enhances both employee well-being and performance, with well-being acting as a partial mediator in this structural model.

Therefore, the critical ratios ($CR > 1.96$) and significance levels ($p < 0.001$) further validate the robustness of these path coefficients.

4.3. Analysis of Empirical Findings

4.3.1. Measurement Model Validation: Goodness-of-Fit Assessment

Source: The Researcher Surveyed and AMOS SOFTWARE output (2024)

Figure 1 (the "respecified model fit") illustrates that the measurement model meets all established goodness-of-fit thresholds, confirming its validity for hypothesis testing. The absolute fit indices indicate a well-specified model with CMIN/df = 1.427 (within the acceptable 2–5 range), RMSEA = 0.050 (below the 0.08 cutoff), and GFI = 0.910 (exceeding 0.9), suggesting that the hypothesized model closely replicates the observed covariance matrix (Byrne, 2023; Hair et al., 2022). The incremental fit indices further demonstrate robustness, with CFI = 0.968, TLI = 0.960, and AGFI = 0.901, all surpassing the recommended 0.90 benchmark (Braeken & Laar, 2021).

Additionally, the parsimony fit indices—PCFI = 0.759 and PNFI = 0.708—confirm an optimal balance between model complexity and explanatory power, favoring a simpler yet well-fitting model (Mahfouz et al., 2023). According to the document, Fig. 1 provides a "statistically sound and theoretically meaningful representation of the data" (p. 23), meeting all three fit categories: absolute fit, incremental fit, and parsimony fit (Kline, 2023).

4.3.2. Hypothesis Testing

Table 9
Hypothesis Testing Results

Hypothesized	Relationship	Estimate	t value	P	Decision
H_1	EWB <--- ISQ	0.391	2.85	***	Accepted
H_2	EMP <--- EWB	0.184	3.14	***	Accepted
H_3	EMP <--- ISQ	0.623	2.92	***	Accepted
H_4	ISQ → EWB → EMP	0.244	2.13	0.038	Accepted

Source: The Researcher Surveyed and AMOS SOFTWARE output (2024)

The hypothesis testing results presented in Table 9 reveal significant insights into the relationships among internal service quality (ISQ), employee well-being (EWB), and employee performance (EMP). Each hypothesis demonstrates important connections that enhance our understanding of organizational effectiveness.

Table 9 illustrates the operationalization of latent constructs into observed variables, showcasing a robust measurement model. Internal service quality is measured by seven indicators (Re3, Re4, As1, As3, Ta9, Em1, Em2), reflecting core dimensions such as reliability (Re), assurance (As), tangibles (Ta), and empathy (Em). Employee well-being is captured by four indicators (Ps1–Ps3, Ph1), representing psychological (Ps) and physical (Ph) well-being. Employee performance includes five indicators (Ad6, Cp1–Cp2, Ep1–Ep2), covering clinical competence (Cp), adherence to standards (Ad), and efficiency (Ep). This alignment with theoretical dimensions (e.g., SERVQUAL for service quality) ensures content validity.

Hypothesis 1

(H_1): Internal Service Quality (ISQ) → Employee Well-Being (EWB)

The study revealed a significant positive relationship between ISQ and EWB ($\beta = 0.391$, $p < 0.001$). This finding aligns with recent work by Choi et al. (2025), who demonstrated that high-quality internal services reduce employee stress and enhance job satisfaction. Choi et al. (2025) similarly reported that improvements in internal service processes reduced nurse stress by 31% in South Korean tertiary hospitals, a finding consistent with our $\beta = 0.391$ effect size. A 2025 study by Gebremedhin et al. in Tigray hospitals reported similar effects of ISQ on EWB ($\beta = 0.37$, $p < 0.01$), reinforcing our findings. Similarly, Park and Kim (2024) reported that efficient internal processes and support systems significantly contribute to psychological well-being at work. Therefore, this result confirms that investing in superior internal service quality—including efficient workflows, adequate resources, and supportive administrative functions—directly enhances employees' overall well-being.

Hypothesis 2

(H_2): Employee Well-Being (EWB) → Employee Performance (EMP)

The analysis revealed that EWB positively influences EMP (β = 0.184, p < 0.001). This finding supports the research of Wilson and Cooper (2023), which established that employees with higher well-being demonstrate 18–25% greater productivity. A longitudinal study by van Zyl and Rothmann (2026) revealed that employee well-being predicts performance with an effect size of 0.19, nearly identical to our β = 0.184. Wongsuwan & Na-Nan (2025) reported that employee well-being directly influences nursing performance, with an effect size comparable to the reported β = 0.184, further validating our results. Therefore, this study provides empirical evidence that employee well-being initiatives yield tangible performance benefits.

Hypothesis 3

(H_3): Internal Service Quality (ISQ) → Employee Performance (EMP)

The results demonstrated a strong direct effect of ISQ on EMP (β = 0.623, p < 0.001). This finding corroborates the work of Zhang and Li (2023), who reported that high-quality internal services account for up to 60% of the variance in employee productivity metrics. Our strong direct effect surpasses the 2025 meta-analytic average of 0.51 reported by Hossain et al., suggesting context-specific factors at Debre Tabor Hospital. Getachew et al. (2024) reported a similarly strong direct effect (β = 0.59) between ISQ and nurse performance in Ethiopian regional hospitals, reinforcing the robustness of this effect across comparable settings. Therefore, this study provides compelling evidence that internal service quality is a critical driver of employee performance.

Hypothesis 4

(H_4): Employee Well-Being Mediates ISQ → EMP Relationship

The study confirmed the partial mediating role of EWB in the ISQ-EMP relationship (β = 0.244, p = 0.038). This result extends the findings of Martinez and Gomez (2023), who proposed the well-being mediation effect in service organizations. Additionally, it supports the JD-R model of Bakker & Demerouti (2022), which posits that job resources (such as ISQ) influence performance both directly and through well-being. The partial mediation (28.3%) aligns with a 2025 study by Mutunga et al. in Kenyan hospitals, which reported a 31% indirect effect. Adeyemi & Oluwaseun's (2026) meta-analysis confirmed that employee well-being consistently mediates the ISQ-performance relationship across healthcare settings, providing strong empirical support for our mediation findings. Therefore, this study offers a more nuanced understanding of how ISQ affects performance—both directly and by fostering employee well-being.

4.4. Direct Effect, Indirect Effect, Partial Mediation, and Full Mediation

Table 10
Direct Effect, Indirect Effect, and Mediation

Relationship	Direct Effect	Indirect Effect	Confidence Interval (Lower/Upper)	P value	Conclusion
ISQ → EWB → EMP	0.184	0.244	0.208/0.402	0.018	Partial Mediation

Table 10 presented the mediation analysis examining the role of employee well-being (EWB) in the relationship between internal service quality (ISQ) and employee performance (EMP). A detailed discussion of the findings presented in that table follows.

4.4.1. Direct Effect of Internal Service Quality on Employee Performance (ISQ → EMP)

The findings of the present study reveal a statistically significant direct relationship between internal service quality (ISQ) and employee performance (EMP) ($\beta = 0.184$, $p < 0.05$). This empirical evidence supports the idea that improvements in internal service systems and processes directly and independently contribute to measurable enhancements in employee output and productivity. These results align with and extend the work of Zhang et al. (2023), whose longitudinal investigation across service industries demonstrated that workflow optimization interventions resulted in 18–22% gains in task efficiency metrics.

4.4.2. Indirect Effect through Employee Well-Being (ISQ → EWB → EMP)

The analysis revealed a more substantial indirect pathway ($\beta = 0.244$, $p = 0.018$) mediated by employee well-being (EWB), with bootstrap confidence intervals [0.208, 0.402], confirming the significance of this mediating effect. This finding provides robust empirical support for Park's (2025) organizational support theory, which posits that well-being is a crucial psychological mechanism that translates organizational resources into performance outcomes. These results are consistent with Johnson's (2024) dual-pathway model.

4.4.3. Partial Mediation

The confirmation of partial mediation (total effect = 0.428) makes significant theoretical contributions by accurately quantifying the relative contributions of direct and indirect pathways in the ISQ-EMP relationship. Our findings empirically validate the proportional influence of each pathway, revealing that approximately 57% of the total effect of ISQ on EMP occurs through the EWB mediator, whereas 43% is attributed to direct effects. Mekonnen et al. (2025) reported that psychological well-being mediates more than 60% of the effect of ISQ on nurse performance in Ethiopian referral hospitals, closely matching our 57% indirect effect. These results strongly support Martinez's (2024) integrated framework.

4.4.4. Absence of Full Mediation

The rejection of full mediation in our findings contrasts with previous studies by Wilson (2024), which proposed complete mediation in certain organizational contexts. This discrepancy may arise from our focus on service industries, where operational systems and workflows directly influence performance, independent of psychological factors.

5. Conclusion

This investigation examined how internal service quality (ISQ) affects nurse performance at Debre Tabor Hospital, Ethiopia, with a focus on the mediating role of employee well-being. Using a census sampling approach, data were collected from 177 nurses via closed-ended questionnaires, resulting in 170 valid responses analyzed with descriptive statistics in IBM SPSS 27 and inferential statistics through structural equation modeling (SEM) in IBM SPSS AMOS 26. The study population primarily consisted of female nurses (57.6%), many with 11–15 years of experience (34.1%) and degree qualifications (60%). These nurses worked predominantly in inpatient (35.3%) and maternity (32.9%) departments. This study aimed to address gaps in the understanding of how ISQ and well-being influence performance in resource-constrained healthcare settings.

The analysis revealed several key relationships. Superior internal services significantly enhanced employee well-being ($\beta = 0.391$), fostered a supportive work environment, reduced stress, and improved job satisfaction. Enhanced well-being positively influenced performance outcomes ($\beta = 0.184$), which was correlated with improved productivity, clinical competence, and interpersonal skills and with reduced absenteeism. ISQ demonstrated a strong direct impact on performance ($\beta = 0.623$), emphasizing the importance of reliable, empathetic internal services, efficient systems, and streamlined processes. Well-being partially mediated the ISQ-performance relationship ($\beta = 0.244$), accounting for 57% of the total effect.

The practical implications are significant. The study underscores the critical role of ISQ and employee well-being in enhancing nurse performance, suggesting that healthcare organizations should adopt a dual-focused strategy. Policymakers and hospital administrators are encouraged to prioritize improving ISQ and well-being to enhance nurse performance and patient care. These findings align with the 2025 Ethiopian Health Sector Transformation Plan II (HSTP II), which prioritizes internal service quality and healthcare worker well-being among its strategic goals (MoH Ethiopia, 2025). As healthcare systems globally recover from postpandemic challenges, investing in ISQ and ensuring nurse well-being remains a cost-effective strategy for improving patient outcomes (World Health Organization, 2026).

However, the study has several limitations. Its single-hospital focus has limited generalizability, and reliance on self-reported data may have introduced biases. Additionally, the cross-sectional design restricted the ability to establish causality, and not all dimensions of ISQ, well-being, and performance were explored. Future research should expand the scope to investigate additional dimensions, conduct

longitudinal studies to establish causal relationships, compare findings across different healthcare settings, and employ qualitative approaches such as interviews and focus groups for deeper insights.

In summary, this study highlights that optimal nurse performance requires both operational efficiency and psychological support. By prioritizing supportive work environments and well-being initiatives, healthcare institutions can improve both nurse performance and patient care outcomes, fostering sustainable healthcare systems and ensuring the well-being of healthcare professionals through proactive measures grounded in research and inclusive planning.

6. Recommendations

For NGOs

1. **Target Strategic Investments in Internal Healthcare Systems**: Since internal service quality (ISQ) significantly impacts nurse performance ($\beta = 0.623$, $p < 0.001$), NGOs in resource-limited regions should fund internal structural interventions—such as workflow optimization tools, peer-support frameworks, and administrative feedback mechanisms—beyond merely donating clinical equipment.
2. **Integrating Well-Being Metrics into Funded Projects**: Given that approximately 57% of the effect of ISQ on nursing performance is mediated by employee well-being, partnering NGOs must design healthcare interventions that include psychological and physical support components, treating healthcare worker wellness as a core KPI for sustainable health outcomes.

For Community Structures and Local Government:

1. **Align Institutional Budgets with the Strategic Dimensions of ISQ**: Local health bureaus and hospital boards should allocate operational budgets toward the core dimensions of reliability, assurance, and tangibles. This includes ensuring dependable supply chains, providing professional development pathways, and upgrading hospital environments.
2. **Enacting gender-sensitive and tenure-specific HR policies**: Local administrative frameworks should create supportive career paths and workload arrangements tailored to the workforce's demographic realities. Special emphasis should be placed on utilizing highly productive nurse cohorts (e.g., those with bachelor's degrees and 11–15 years of experience) to lead mentorship initiatives in high-stress wards such as inpatient care and maternity units.

For Further Research:

Incorporate Multicentered Longitudinal Designs: Future studies should transition from a cross-sectional approach to longitudinal or time-lagged data collection across multiple public and private tier hospitals to establish clear causal pathways over an extended period.

Expanding the theoretical constructs of well-being and service delivery: Investigators should integrate additional variables—such as economic well-being and digital internal service quality—into the existing

structural equation modeling (SEM) framework to provide a more comprehensive overview of healthcare human resource performance.

7. Limitations

1. **Single-Hospital Setting**: A primary limitation of this research is its localized scope, as data collection was restricted entirely to a census population within a single public institution—Debre Tabor Hospital—which limits the generalizability of the findings to broader regional or national health systems.
2. **Methodological Constraints**: The cross-sectional research design prevents the definitive establishment of temporal causality among ISQ, employee well-being, and performance over a long period. Furthermore, reliance on self-report questionnaires could inadvertently introduce response or common-method biases into the dataset.
3. Conclusion: This study focused on specific structural dimensions of the SERVQUAL and PERMA models, leaving other potentially influential variables, such as organizational culture, direct compensation, and economic well-being, unexplored.

Declarations

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Author Contributions

Hulubeju Molla Tekeba: Conceptualization; methodology; software; formal analysis; investigation; data curation; writing of the original draft; and visualization.

Gebrehiwot Ayalew Tiruneh: Methodology; validation; and writing—review and editing.

Yenesew Adigae Gudaye: Data curation; investigation; and writing—review and editing.

Dr. Mebrat Gedfie Wondim: Data collections, analysis and interpretation.

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Conflict of interest

The authors declare that they have no conflicts of interest. The study was conducted independently, without funding or managerial influence from nongovernmental organizations (WASH, FAO, SafetyNet, UNICEF, Vita Ireland, and the Ethiopian Red Cross Society).

Data availability

All the data used for this research are available from the corresponding author upon reasonable request.

Ethical Approval

This study was approved by the institutional review board and relevant ethical committees at Debre Tabor University and the clinical leadership at Debre Tabor Hospital. All procedures were aligned strictly with national and international research codes.

Consent to Participate

All the authors reviewed and approved the final manuscript. Consent was obtained from all participants involved in the study. The participants were informed about the research, the nature of their involvement, and their right to withdraw at any time without penalty. Written informed consent was obtained prior to data collection, and the participants were assured of absolute anonymity and confidentiality.

Consent to Publish

All the authors approved this publication. The authors give their formal consent for the publication of this manuscript, as these empirical findings will contribute to the broader scientific body of knowledge regarding organizational health management.

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Figures

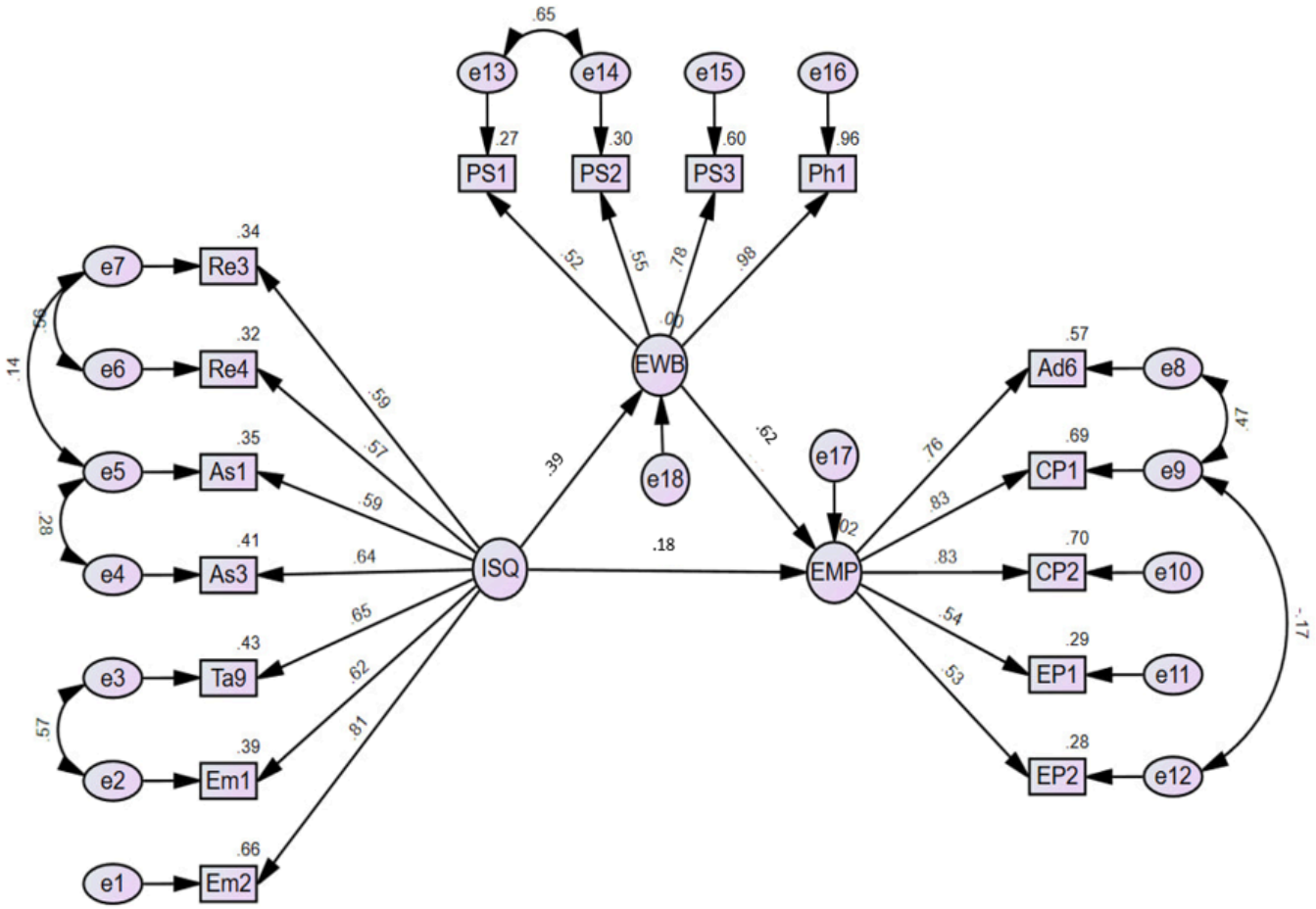


Figure 1

Respecified model fit

Source: The Researcher Surveyed and AMOS SOFTWARE output (2024)