

# The mediation effect of learning organization in the relationship between internal service quality and job satisfaction of nurses

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## Abstract

**Background:** There is little evidence about the influence of internal service quality on nurses' job satisfaction and their ability to provide efficient patient care. This study aims to explore the mediating effect of 'learning organization in the relationship between the internal service quality and job satisfaction of nurses in public hospitals in Cameroon.

**Methods:** A total of 400 questionnaires were distributed to nurses in public hospitals between 20 February to 31 December 2017. The mediation analysis was conducted using SPSS and PROCESS model 4.

**Results:** The impact of internal service quality and learning organization on the job satisfaction of nurses was significant and positive. In addition, learning organization fully mediates the relationship between internal service quality and job satisfaction.

**Conclusions:** Internal service quality increases the job satisfaction of health workers via learning organization practice in public hospitals. Health care managers should be aware of factors that foster job satisfaction and provide a high quality of internal services that incorporate learning organization activities, to enhance existing medical skills and improve the job satisfaction of health workers for better health service delivery to patients. [*Ethiop. J. Health Dev.* 2020; 34(4):000-000]

**Key words:** Nurses, internal service quality, learning organization, job satisfaction

## Introduction

Health institutions are knowledge-intensive, with health professionals who need to update their skills and incorporate the latest medical techniques to ensure a high quality of patient care within challenging contexts. Advancing technology and the evolution of science are challenges that hospital leaders must engage with so that they can promote a patient-oriented approach, adopt more interprofessional procedures in care, and focus on outcome measures for continuous quality improvement (1). The quality of health service delivery depends on human capacity, which constitutes the first barrier to health system quality improvement (2). Nurses, as the largest workforce in hospitals, have the weighty responsibility to provide the best care to patients (3). Numerous studies indicate that job satisfaction among nurses is the strongest predictor of patient satisfaction in the health care setting (4). Thus, factors that contribute to an increase in nurses' level of satisfaction should be of interest and concern to health leaders and managers (5).

Job satisfaction among nurses is an essential value in redefining existing health systems and is an important concept to explore because of its impact on the quality of health care delivery (6). Also, job satisfaction plays a critical role in nurse retention and the ability to provide health services to patients (7,8).

Curtis *et al.* examined the factors that contribute to the job satisfaction of nurses. The results show that professional interaction and autonomy contribute more to job satisfaction than pay and task activities (9). In addition health managers should ensure a high level of morale among nurses by investigating factors that drive satisfaction (10). In the literature, various studies focus on how to improve the job satisfaction of nurses. Prakash & Srivastava show that internal service quality

affects the satisfaction of nurses and the quality of service delivery in the health care system (11). In hospitals, leaders can increase the satisfaction of nurses by including internal service quality in managerial activities (12). According to Jeong *et al.*, hospital leaders can satisfy the demands of nurses by promoting the concept of the 'learning organization' and developing a learning organization culture in the health sector (13). Pantouvakis & Mpogiatzidis found that internal service quality and learning organization are predictors of job satisfaction among clinical leaders (14).

The nursing profession in Cameroon is highly demanding and stressful. With the low ratio of nurses to patients (15), nurses are under emotional pressure looking after numerous patients in their daily practice (16). Various studies indicate that nurses in public hospitals in Cameroon face many difficulties, including inadequate training and learning, a lack of medical supplies and equipment, low pay, and a shortage of staff (15,17,18). These factors decrease job satisfaction among nurses (16,17,19). Job satisfaction among nurses is essential for patient satisfaction, which is why it is important to focus on the best practice to improve satisfaction among nurses.

This study proposes the concepts of internal service quality and learning organization as tools to help managers improve the satisfaction of nurses in public hospitals in Cameroon.

From the existing literature, there is scarce empirical data on the impact of internal service quality on nurses' job satisfaction in public hospitals in Cameroon. This gap calls for further investigation. Also, despite the broad organizational outcomes and the importance of the learning organization discussed in various working

environments, including the health sector, little is known about this issue in Africa. Thus there is a clear gap for further investigation (20,21). Additionally, while there have been studies on the positive effect of internal service quality and learning organization on job satisfaction in a public hospital (14), there have been no empirical studies in Africa that investigated the learning organization as a mediator between internal service quality and job satisfaction. To fill in the gaps from previous literature, this study aims to explore the impact of internal service quality on nurses' job satisfaction. And while previous studies have shown the interconnection between internal service quality, learning organization and job satisfaction, the current study aims to further investigate how learning organization influences the relationship between internal service quality and the job satisfaction of nurses.

Internal service quality refers to the extent to which hospital departments support each other in providing prompt and reliable services and medical supplies that are required for patient care (22). A high level of internal service quality can reduce the daily challenges that frequently occur in hospitals, and also have an impact on nurses' ability to provide patient care. Zheng *et al.* state that enhancing the quality of internal service in a hospital can minimise inefficiency and medical errors (23). Steinke, using a modified version of the service profit chain to investigate the role of internal service quality on the satisfaction of nurses, reports that the quality of service provided to nurses fosters job satisfaction and empowerment, and leads to a better service culture (24). In short, high-quality internal service in health services helps employees to carry out their jobs better. It increases their satisfaction, motivates them to cooperate in achieving organizational goals, improves their performance, and leads to better services for customers/clients (14,25). Lautizi *et al.* found that the job satisfaction of nurses also depends on the support they receive, specifically the opportunity to learn; conversely, the lack of professional progress leads to frustration and dissatisfaction (26). Lautizi *et al.* add that to ensure a high quality of patient care, nurses should participate in health care service delivery by continuously improving their knowledge and skills through the learning process.

Continuous learning is essential in the healthcare sector because of the rapid evolution of science, technology, and medical knowledge. Learning organization can help to equip health professionals with innovative skills that could have a significant impact on their satisfaction

level and performance (27). A learning organization is one "where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn"(28,p.3). Several studies have demonstrated that learning organization in healthcare settings helps to improve health service delivery, implement best medical practices, foster inter-professional relationships among employees, increase job satisfaction levels, and promote continuous quality improvement (14,30-32). Moreover, learning organizations can provide the opportunity to address various challenges faced by a hospital, to develop a patient-oriented approach, leading to continuous quality improvement, and help to move away from a "culture of blame" provoked by medical error (1). Tsai stresses that the learning organization offers tools that help to upgrade the medical skills and ability of nurses to deliver a consistent quality of healthcare to meet patients' needs (32).

Based on past studies which indicate that internal service quality influences learning organization and job satisfaction in hospitals (14), the authors sought to further investigate the relationship between internal service quality, learning organization and job satisfaction. A theoretical framework was developed to explore the mediating effect of learning organization (mediator, Z) on the relationship between internal service quality (independent variable or predictor, X) and job satisfaction (dependent variable, Y). The authors adopted the mediation analysis process of Baron & Kenny (33) to investigate the mediation effect of learning organization. This process is widely recognized and used as a reliable method to investigate mediation analysis (34). Accordingly, the following three steps, presented in three paths, must be fulfilled for the mediation to hold:

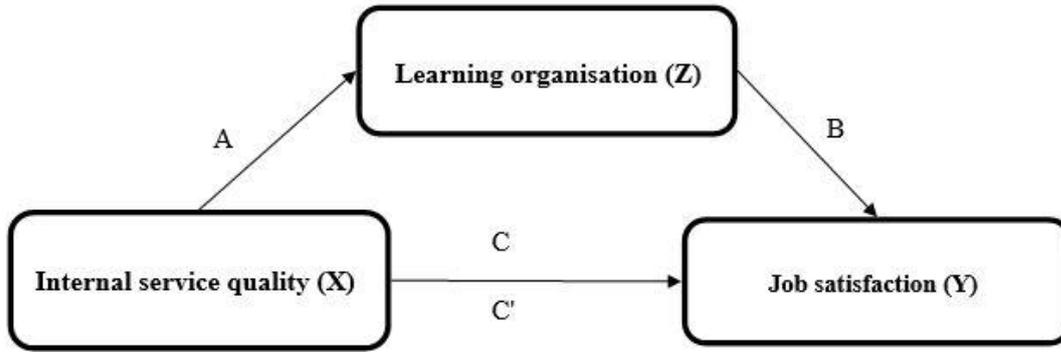
Path C: Internal service quality has a positive effect on the job satisfaction of nurses

Path A: Internal service quality has a positive effect on the learning organization

Path B and C': Learning organization mediates the relationship between internal service quality and the job satisfaction of nurses

Full mediation occurs if the relationship between the independent and dependent variable is no longer significant when the mediator is included in the relationship.

Figure 1: Conceptual framework



**Method**

This study was conducted in three public hospitals in Yaoundé, Cameroon. The authors selected these hospitals on the basis that they are Cameroon’s largest health care organizations in terms of the number of nurses (17). The study protocol was approved by Cameroon’s Ministry of Public Health and ethical clearance was obtained from the regional health authority. After securing the consent of the director of each hospital, we distributed the questionnaires to senior representatives of each department in the hospitals. The senior representatives were made aware of the length of the study period, the need for participants’ responses to be anonymised, the importance of data protection, and how the voluntary participation was to be addressed. The participants were assured that their responses would be used solely for the purposes of the research A total of 400 structured questionnaires were distributed, and 313 surveys were completed and returned. The response rate was 78.25%.

The questionnaire, developed in English and translated into French, was used to examine the research model. The questionnaire contained 38 items in three sections. The first section contained questions about the demographic information of the participants. The second comprised items adapted from a 20-item scale based on previous research to assess the internal service quality (14). The third section embodied the 15-item

scale of the ‘Dimension of learning organization questionnaire’ (DLOQ) instrument. This was modified and adapted, resulting in a 12 item scale instead of 15 (14). In the last part of this research, the job satisfaction dimension (JSS) used the six-item tool based on the Nylena et al.’ study (35). A five-point Likert scale was employed to measure all the items, with rating scales ranging from ‘strongly disagree’ = 1 to ‘strongly agree’ = 5, and ‘extremely dissatisfied’ = 1 to ‘extremely satisfied’ = 5.

The data were analysed using SPSS statistics software package for Windows version 20. Cronbach’s alpha ( $\alpha$ ) was used to examine the consistency of the set of measurements. The descriptive statistics, including mean (M) and standard deviation (SD), were computed. The mediation analysis was performed to investigate the mediating role of learning organization in the relationship between internal service quality and job satisfaction, based on the mediation steps of Baron & Kenny, using the PROCESS model 4 (36) and the Sobel z-test to confirm the significance of the mediation.

**Results**

More female nurses participated in the study (65.2%) than male nurses. The majority of nurses (46.6%) hold job tenure in the range of 6-10 years. Of the nurses, 48.6% were aged between 35 and 44 (see Table 1).

Table 1: Demographic of sample (n = 313)

Variables	Frequency	Percentage (%)
<i>Gender</i>		
Male	109	34.8
Female	204	65.2
<i>Job tenure</i>		
<5	70	22.4
6 - 10	146	46.6
11 - 20	81	25.9
>21	16	5.1
<i>Age</i>		
<25	2	0.6
25 - 34	106	33.9
35 - 44	152	48.6
45 - 54	49	15.7
55 - 64	4	1.3

The Cronbach's alpha test was performed to assess the internal consistency of the multi-item construct. Values exceeding 0.65 were deemed acceptable for internal consistency (37), as shown in Table 2. The composite reliability (CR) of the variables falls into the acceptable range (higher than 0.60) (38); the average variance extracted (AVE) for each construct reached the required

level (0.50). These results confirm the convergent validity of variables. To evaluate discriminant validity, the square root of AVE for each construct should be larger than the value of its correlation value with all the other constructs (39). The results presented in Table 3 confirm the discriminant validity, and the reliability and validity of the questionnaire.

**Table 2: Reliability and validity**

Construct	$\alpha$	KMO	AVE	CR
1. <b>INSERQUAL</b>	0.854	0.820	0.50	0.94
2. <b>LEARNORG</b>	0.807	0.801	0.51	0.92
3. <b>JOBSAT</b>	0.703	0.810	0.50	0.86

INSERQUAL = internal service quality, LEARNORG = learning organization, JOBSAT = job satisfaction, KMO= Kaiser-Meyer-olkin

The value of the mean and standard deviations, and a correlation matrix, are provided in Table 3. Pearson's correlation for the study indicates that variables have a positive correlation with job satisfaction, and with each

other. These results support the researchers' expectations of the interconnection between the independent variable, mediator and the dependent variable (see Table 3).

**Table 3: Descriptive statistics and correlation of the constructs**

Construct	Mean	SD	1	2	3
1. <b>INSERQUAL</b>	3.003	0.614	<b>0.70</b>		
2. <b>LEARNORG</b>	2.950	0.713	0.663*	<b>0.71</b>	
3. <b>JOBSAT</b>	2.714	0.984	0.349*	0.452*	<b>0.70</b>

\* Level correlation is significant at the  $p=0.01$

SD = standard deviation, INSERQUAL = internal service quality, LEARNORG = learning organization, JOBSAT= job satisfaction. Diagonal values are square roots of AVE

#### Testing the model

The direct effect of internal service quality on job satisfaction of nurses and the mediating effects of learning organisation in the relationship between internal service quality and job satisfaction are shown in Table 4 and Figure 2. The regression analysis showed that internal service quality was a significant predictor of job satisfaction (path C,  $\beta = 0.558$ ;  $p<0.05$ ); the internal service quality significantly predicts learning organization (path A,  $\beta = 0.770$ ;  $p<0.05$ ). In the last regression analysis, the effect of internal service quality

on job satisfaction decreases and is no longer a significant predictor of job satisfaction when the mediator is included in the model (path B,  $\beta = 0.543$ ,  $p<0.05$ ; path C',  $\beta = 0.140$ ,  $p>0.05$ ). These findings show that all the conditions are met for a full mediation of learning organization in the relationship between internal service quality and the job satisfaction of nurses. The Sobel z-test also confirmed the significance of the indirect effect of internal service quality on job satisfaction ( $z = 5.45$ ,  $p<0.05$ ).

Table 4: Summary of the direct and mediating regression analyses

Model	B	SEB	$\beta$	p-value
<b>Path C (R = 0.349, R<sup>2</sup> = 0.122)</b>				
INSERQUAL	0.558	0.085	0.349	0.000
<b>Path A (R = 0.663, R<sup>2</sup> = 0.440)</b>				
INSERQUAL	0.770	0.049	0.663	0.000
<b>Path B and C' (R = 0.457, R<sup>2</sup> = 0.208)</b>				
INSERQUAL	0.140	0.108	0.087	0.197
LEARNORG	0.543	0.093	0.394	0.000

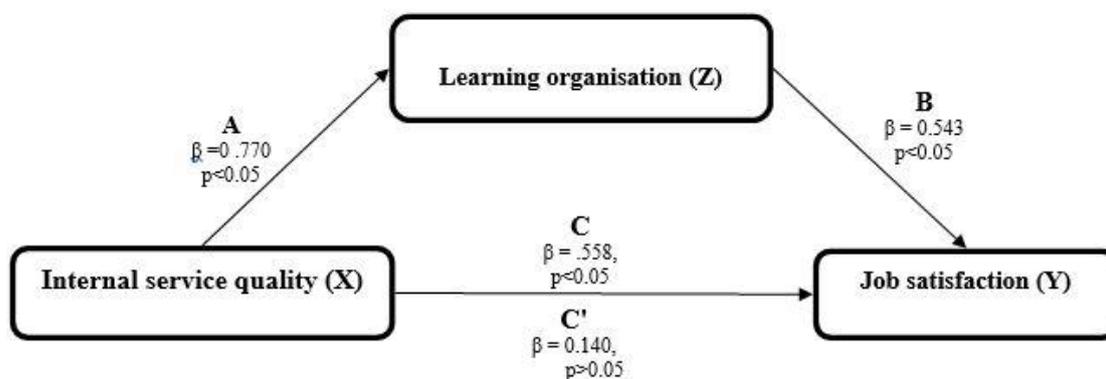
Path C: Regression analysis of internal service quality as predictor of job satisfaction

Path A: Regression analysis of internal service quality as predictor of learning organization

Path B and C': Regression analysis of internal service quality and learning organization as predictors of job satisfaction

INSERQUAL = internal service quality, LEARNORG = learning organization, JOBSAT = job satisfaction, B = Unstandardized beta, SEB= Standard error for unstandardized,  $\beta$ = standardized beta, p= probability value

Figure 2: Mediating results



**Discussion**

This study examined the mediating effect of learning organization in the relationship between internal service quality and the job satisfaction of nurses. The results indicate that internal service quality significantly predicts job satisfaction among nurses. Thus, providing high internal service quality to nurses will enhance their job satisfaction. This finding confirms the results of prior studies which reveal that internal service quality helps employees to perform better and makes them feel more satisfied (12,15,41-46). Zheng shows that hospitals’ internal service quality might help to reduce operational failures on nursing units (23) , and increase nurses’ level of job satisfaction and willingness to work overtime (46).

The results of the current study confirm that the steps of mediation were fulfilled, indicating a full mediation of learning organization in the relationship between internal service quality and learning organization. The results also provide more evidence of the importance of learning organization in health care organizations (14,44). The role of the learning organization in a workplace is to facilitate the engagement of workers to participate in the process of learning, aiming to promote open communication, innovation, dialogue, and

continuous learning, leading to success (47). The greater the degree to which a healthcare institution sets learning as a priority, the more satisfied staff members appear to be in their jobs, and improve their knowledge and skills to contribute effectively to healthcare service delivery to patients. Thus, the learning organization enhances the nurses’ propensity to feel satisfied with the service provided by the health provider.

**Limitations of this study**

The following limitations could impede the generalizability of this research. First, there is no available data on factors influencing nurses’ job satisfaction in the selected hospitals; thus, the authors lack data for comparison. Second, while this study is, to the best of our knowledge, the first to investigate the mediating role of learning organization in the relationship between internal service quality and job satisfaction in public hospitals in Cameroon, the use of the self-questionnaire was subject to recall bias.

**Conclusions**

The paper contributes to a framework that determines the causal relationship between internal service quality, learning organization and job satisfaction. This study extended the view of the role of learning organization in

the health care field by demonstrating the mediating role in the relationship between internal service quality and job satisfaction of nurses. Assessing the job satisfaction of nurses enables health providers to have a clear vision of personal perception and develop policies to increase their levels of satisfaction. The evolution of science and medicine provide the healthcare institutions with a great opportunity to implement a learning organization culture. Nurses can integrate their effort to acquire knowledge using the learning organization approach. In the process, they can gain the ability to learn, anticipate medical knowledge opportunities in order to enhance their medical practice, and improve their ability to provide the best quality of patient care.

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