

# Relative contribution of emotional intelligence indicators in quality of nursing services in Saudi private hospitals at the Eastern province

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## ABSTRACT

The current study aimed to identify the relative contribution of Emotional Intelligence (EI) factors in quality service of nursing in Saudi private hospitals in the Eastern Province. This study depends on the descriptive (analytical) approach. The research community included some Saudi hospitals in the Eastern-Province, the research sample included only Saudi private hospitals in the Eastern Province. For the application of the EI Scale, (170) nurses were recruited among them (40) refused to participate, (20) were off duty during the application, and (10) delivered the scale incomplete. For Service Quality Scale, (230) patients were recruited among them (50) patients refused to participate, (45) were excluded due to old age, and (35) were excluded for reasonable doubt about their responses. Two scales were used for gathering data: Service Quality Scale (SERVQUAL) - Emotional Intelligence Scale (WELIS). Results indicated that increases in EI levels lead to similar increases in service quality in Saudi hospitals. There are statistically significant positive correlations among EI dimensions (SEA – OEA – UOE – ORE) and service quality dimensions (responsiveness – reliability – assurance – empathy – tangibles) with a total value of (0.897). Predictive equation for service quality can be formulated as follows: Service Quality = 12.412 + (0.511 x OEA) + (0.254 x SEA) + (0.109 x UOE) + (0.084 x ORE).

**Keywords:** Emotional Intelligence, Service Quality, Nursing Services, Private Hospitals, Saudi Arabia, Eastern Province.

## Introduction

The health care industry environment is witnessing rapid changes that require an open mind to new ideas to keep up with. It needs innovation and creativity of new methods for service providing in addition to training and motivating individuals for innovation. Commitment to quality services is a top priority of individual values and motives. Leadership's assertion for providing quality health care services and using intelligence may lead to improving the quality of products and processes. This

asserts the significance of quality-based organizational culture so that hospitals become more capable of growth and sustaining stable work <sup>[1]</sup>.

Management needs to exert more efforts to maintain service quality, including facilities, to increase customers' loyalty reflected in customers' closeness and attachment. Service quality is based on customers' satisfaction and trust in addition to recommendations to others, consumption behavior, and commitment <sup>[2]</sup>.

Through improving the quality of services provided to customers, all different socio-cognitive aspects of consumers appear. Health care organizations make use of these aspects to increase positive response to quality that can positively affect commitment. This indicates that self-efficacy and emotional intelligence (EI) strongly mediate the relationship with perceived quality in addition to their direct effect on commitment. Furthermore, previous studies on EI and service quality indicated that in the case of service providers, EI is a strong indicator of service quality <sup>[3, 4]</sup>.

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A study indicated that individuals with high EI are more successful in their professional life as they score higher on their functionality and lower on their perceived job stress, they also have better leadership skills<sup>[5]</sup>. Service is provided through direct cooperation and interaction between customers and workers<sup>[6]</sup>. Service quality is a familiar measurement for the performance level of service organizations as it affects customers' satisfaction to win customers' loyalty. Therefore, customers' perception of service quality depends on the difference between the expected service and the perceived one (actual delivery of service)<sup>[7]</sup>. Another study suggested a group of standards used by customers to measure service quality that shapes their perceptions about service. These standards are formulated on a scale called the "Quality Services" model to measure the gap between customers' expectations of quality services and the actual performance of service providers. This model is widely applied in the field of the service industry and can be modified according to certain requirements of a certain organization.<sup>[8]</sup>

Several studies investigated EI and the efficacy related to it in hospitals as it identifies the ability of nursing staff to manage themselves and their relations effectively<sup>[9]</sup>. Ezzatabadi et al. (2012) in their study indicated that nurses' EI had a direct effect on the quality service of hospitals<sup>[10]</sup>. Also, the study indicated that job satisfaction and contact skills of nurses mediate the relationship between emotional intelligence and quality service. Another study indicated that EI had strong correlations with the transformational leadership of head nurses. Therefore, emotional intelligence characteristics should be considered when recruiting head nurses in addition to directing efforts towards improving education according to the requirements of business organizations through considering basic strategies necessary for effective leadership of head nurses<sup>[11]</sup>.

Accordingly, nursing performance and EI play a major role in improving the service quality. Therefore, it is necessary to realize the role of EI in fostering quality of nursing services in private Saudi hospitals that provide service to clients on the basis that quality service is the client's satisfaction with the service provided compared with his/her needs, desires, and expectations. Health care is a vital field with the potentials of providing special services according to clients' needs. With the increase in hospitals number, hospitals are now facing several challenges and changes. This increased competition among hospitals in both the private and public sectors. This competition imposes the following new methods to increase performance and reach a quality level of service that enables hospitals to survive in the face of other alternatives. Clients are now more aware of having quality service. This leads private hospitals to use modern administrative approaches and develop nursing staff in the face of these ambiguous and more complicated conditions. This is manifested in depending on quality management and recruiting nursing staff with distinguished mental skills, especially in controlling self-emotions, respecting others' emotions, and using this when dealing with patients regularly, in addition to

efficient use of resources to achieve a competitive advantage for the hospital. For hospitals, quality is a strategic weapon to achieve this competitive advantage. This leads to study the reality of quality service from the beneficiaries' perspective and emotional intelligence of nursing staff so that the hospital can achieve a competitive advantage through improving service quality for beneficiaries. The current study investigated the nurses' perspectives towards EI on the dimensions of self-emotion appraisal (SEA) – other's emotion appraisal (OEA) – use of emotion (UOE) – regulation of emotion (ROE). The study also investigates patients' perspectives towards nursing service quality on the following dimensions: responsiveness – reliability – assurance – empathy – tangibles. EI and Quality service dimensions inside the hospital were evaluated to identify their effects on patients' satisfaction and loyalty.

**Aim:**

The current study aimed to identify the relative contribution of EI factors in quality service of nursing in Saudi private hospital of the Eastern Province through:

1. Analysis of EI Scale dimensions and total
2. Analysis of Service Quality Scale dimensions and total
3. Correlations among EI and Service Quality in hospitals.

### **Hypotheses:**

1. There are statistically significant differences among the dimensions of the EI Scale in the Saudi private hospital of the Eastern Province.
2. There are statistically significant differences among the dimensions of the Service Quality Scale in the Saudi private hospital of the Eastern Province.
3. There are correlations among the dimensions of the EI Scale and Service Quality Scale in the Saudi private hospital of the Eastern Province.
4. There are relative contributions of the dimensions of the EI Scale on the dimensions of the Service Quality Scale in Saudi private hospitals of the Eastern Province.

### **Methods:**

#### **Approach:**

This study used a descriptive (analytical) approach.

#### **Participants:**

The research community included some Saudi hospitals in the Eastern Province. The research sample included only Saudi private hospitals in the Eastern Province. For the application of the EI Scale, (170) nurses were recruited among them (40) refused to participate, (20) were off duty during the application, and (10) delivered the scale incomplete. For Service Quality Scale, (230) patients were recruited among them (50) patients refused to participate, (45) were excluded due to old age, and (35) were excluded for reasonable doubt about their responses.

Table (1) shows the numbers of participants.

S	Variable	Category	Nurses		Patients	
			Number	Total	Number	Total
1	Age	>30	65		80	
		30-34 years	15		15	
		35-39 years	5		5	
		≤ 40	5		0.00	
2	Gender	Male	35		45	
		Female	65		55	
3	Total		-	100	-	100

Table (1) shows the categorization of participants as (100) nurses and (100) patients participated in this study.

### Data Collection Tools:

- Service Quality Scale (SERVQUAL) <sup>[12]</sup>: The scale was proved valid and reliable. The scale included (22) items distributed on (5) dimensions:
  - First dimension: Responsiveness (4 items).
  - Second dimension: Reliability (5 items).
  - Third dimension: Assurance (4 items).
  - Fourth dimension: Empathy (5 items).
  - Fifth dimension: Tangibles (4 items).

The scale was corrected on 5-point Likert scale as follows: strongly agree = 5 – agree = 4 – don't know = 3 – disagree = 2 – strongly disagree = 1.

- Emotional Intelligence Scale (WELIS) <sup>[13]</sup>: This scale proved valid and reliable and is regularly used in the administrative field. The scale includes (16) items distributed on (4) dimensions:
  - Self-emotion appraisal (SEA): (4) items

- Others-emotion appraisal (OEA): (4) items
- Use of emotion (UOE): (4) items
- Regulation of emotion (ROE): (4) items.

The scale was corrected on 7-point Likert scale as follows: strongly agree = 7 – agree = 6 – slightly agree = 5 - don't know = 4 – slightly disagree = 3 - disagree = 2 – strongly disagree = 1.

### Main application:

After fulfilling all administrative approvals of hospitals' administrations, the two scales were applied to participants during May 2019. Participants' responses were corrected and tabulated for statistical treatment using Microsoft Excel software.

### Statistical treatment:

To treat data statistically, SPSS (v16) software was used to calculate the following: mean – SD – median – kurtosis – skewness – F test – relative contribution – Pearson's correlation coefficient – Stepwise Regression analysis – graphs.

### Results:

S	Dimensions	Mean	SD	(T)	Order	P
1	SEA	6.343	0.303	21.708	2 <sup>nd</sup>	0.000
2	OEA	6.700	0.718	27.180	1 <sup>st</sup>	0.000
3	UOE	6.270	0.400	18.253	3 <sup>rd</sup>	0.000
4	ROE	6.150	0.359	23.685	4 <sup>th</sup>	0.000
	Total	6.366	0.369	17.178		0.000

(t) table value on P ≤ 0.05 = 1.658

Table (2) indicated statistically significant differences among means of participants' responses as (t) calculated values were

higher than its table value with high significance on the dimensions of emotional intelligence scale (WELIS).

**Table 3: Analysis of dimensions and total of (SERVQUAL) (n=100)**

S	Dimensions	Mean	SD	(T)	Order	P
1	Responsiveness	4.788	0.090	19.447	5 <sup>th</sup>	0.000
2	Reliability	4.996	0.028	28.011	2 <sup>nd</sup>	0.000
3	Assurance	4.998	0.025	32.421	1 <sup>st</sup>	0.000
4	Empathy	4.980	0.088	21.624	4 <sup>th</sup>	0.000
5	Tangibles	4.988	0.055	24.536	3 <sup>rd</sup>	0.000
	Total	4.951	0.036	25.283		0.000

(t) table value on  $P \leq 0.05 = 1.658$

Table (3) indicated statistically significant differences among means of participants' responses as (t) calculated values were

higher than its table value with high significance on the dimensions of service quality scale (SERVQUAL).

**Table 4: Correlations among the dimensions of (WELIS) and (SERVQUAL) (n=100)**

S	Variables	Service Quality					Total
		Responsiveness	Reliability	Assurance	Empathy	Tangibles	
1	SEA	0.882	0.819	0.744	0.812	0.601	
2	OEA	0.776	0.642	0.760	0.796	0.796	
3	UOE	0.632	0.784	0.507	0.821	0.721	
4	ROE	0.876	0.739	0.660	0.846	0.646	
-	<b>Total</b>						<b>0.897</b>

R table value on  $P \leq 0.05 = 0.273$

Table (4) shows the correlation matrix between EI dimensions and Service Quality dimensions. This shows a statistically

significant positive correlation as R calculated value (0.897) was higher than its table value.

**Table 5: Stepwise Regression for indicators of EI on Service Quality**

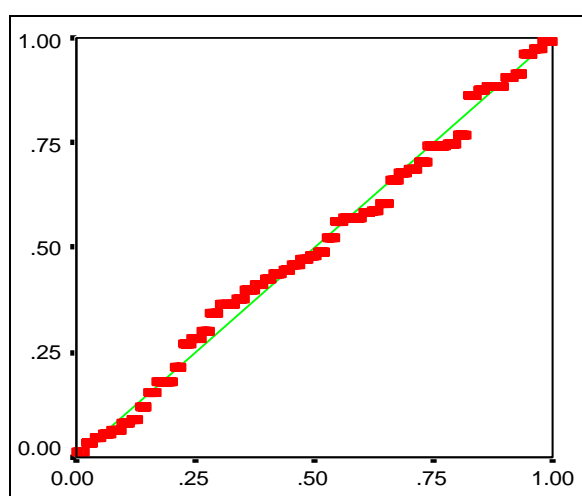
Contributors	F	Standard Error	Constant	Regression (Rs adjusted)			Contribution (%)	
OEA	306.614	0.937	23.865	0.642			53.950	
OEA+SEA	278.564	0.743	21.522	0.578	0.418		76.830	
OEA+SEA+UOE	219.553	0.559	17.921	0.547	0.350	0.216	89.210	
OEA+SEA+UOE+ROE	161.562	0.444	12.412	0.511	0.254	0.109	0.084	95.830

Table (5) shows stepwise regression and (R2 adjusted) values in four cases of contributing indicators of EI on service quality of nursing in hospitals.

## Discussion:

Table (2) showed statistically significant differences among responses on participants on the dimensions of EI scale (WELIS), as (t) table value (1.658) was lower than the calculated values ranging from (18.253) to (27.180) on  $P \leq 0.05$ . This clearly shows the significance of means of participants ranging from  $(6.700 \pm 0.718)$  as the highest value for the OEA dimension that came first, and  $(6.150 \pm 0.359)$  as the lowest value for the ROE dimension that came last. The table also showed that the total of the scale was  $(6.336 \pm 0.369)$ . This indicates a low dispersion of participants' responses around the total of WELIS dimensions. This means that participants share closer perspectives about these dimensions. Generally speaking, this indicates high levels of EI in private hospitals under investigation from nurses' perspectives.

A review of related literature showed a relationship between health care specialist's EI and care behavior. There are also other factors related to EI that may affect care behavior. It is clear that



**Fig. (1):** Stepwise Regression of WEILS dimensions on SERVQUAL dimension

nurses' EI is related to physical and emotional care. But this EI may be less linked to the relationship with head nurses and doctors. This indicates the importance of improving nurses' EI level due to its positive effects on some rare behaviors<sup>[14]</sup>.

The EI indirectly affects the project's performance by affecting social capital. Cognitive intelligence also indirectly affects social capital but affects the project's performance directly<sup>[15]</sup>. A study investigated the relationship between EI and nursing leadership behaviors in public sector health care organizations in South India. Results indicated that EI is positively correlated to the nursing leadership behaviors of CEOs under investigation<sup>[16]</sup>. Moderate EI affects work outcomes, job satisfaction, job commitment, and organizational commitment<sup>[13]</sup>.

This proves the first hypothesis stating: "There are statistically significant differences among the dimensions of EI Scale in Saudi private hospital of the Eastern Zone".

Table (3) shows statistically significant differences among responses on participants on the dimensions of Service Quality Scale (SERVQUAL) as (t) table value (1.658) was lower than the calculated values ranging from (19.447) to (32.421) on  $P \leq 0.05$ . This clearly shows the significance of means of participants ranging from  $(4.998 \pm 0.025)$  for Assurance that came first, too  $(4.788 \pm 0.090)$  for Responsiveness that came last. This indicates a low dispersion of participants' responses around the total of SERVQUAL dimensions. This means that participants share closer perspectives about these dimensions. Generally speaking, this indicates high levels of service quality in private hospitals under investigation from patients' perspectives.

A study indicated that patients are more satisfied with "care provided by nurses" while they were less satisfied with (information provided to them) as (63.9%) of patients described nursing service provided to them as excellent. Accordingly, nurses showed higher care for providing patients with information<sup>[17]</sup>.

When studying the effect of work conditions and exhaustion on the quality of nursing services, it was clear that exhaustion did not affect nurses' performance when other conditions are controlled. Nurse characteristics had indirect effects on the quality of nursing care. Improving work conditions for nurses enhances the quality of nursing care. Different care practices and different leadership styles did not have a great effect on the quality of nursing services. Younger nurses showed better quality care<sup>[18]</sup>. Investigating the role of nursing leadership efficacies in initiating the principles of total quality indicated a positive effect for these efficacies on principles of total quality in addition to clear differences among companies under investigation<sup>[1]</sup>.

This proves the second hypothesis stating: "There are statistically significant differences among the dimensions of Service Quality Scale in Saudi private hospital of the Eastern Zone".

Table (4) shows statistically significant positive correlations between the dimensions of WEILS and SERVQUAL as R table value (0.237) was less than its calculated values ranging from

(0.507) to (0.882). The total R calculated value (0.897) was higher than its table value.

Through investigating the relationship between health care service quality and patients' satisfaction and loyalty, it is clear that health care service providers try to provide improved health care services to clients. Quality of health care services tends to build up satisfaction and loyalty among patients. Dimensions of quality health care services (physical environment – client-friendly environment – responsiveness – communication – privacy and safety) are positively correlated with patients' loyalty mediated by patients; satisfaction<sup>[19]</sup>.

The study of the relationship between patients' satisfaction and nurses' EI skills in surgical clinics indicated a statistically significant positive relationship between satisfaction degree, asserted care, use of emotion, and patients' emotional awareness. Emotional intelligence can be one of the goal-setting indicators and should be recognized as a quality indicator for improving health care services<sup>[20]</sup>.

Studying the effect of EI on service quality indicated that EI affects positively the quality of service provided in the banking sector in Pakistan<sup>[3]</sup>.

Studying the effects of self-efficacy and EI on the perceived quality and commitment indicated that self-efficacy and EI mediate the relationships among technical quality, functional quality, and commitment. It was also clear that self-efficacy and EI strongly mediate the relationship with perceived quality. There was a direct effect of self-efficacy and EI on commitment<sup>[4]</sup>.

This proves the third hypothesis stating: "There are correlations among the dimensions of EI Scale and Service Quality Scale in Saudi private hospital of the Eastern Zone".

Table (5) shows stepwise regression and (R<sup>2</sup> adjusted) values in four steps of contributing indicators of EI on service quality of nursing in hospitals. The first step indicated that (OEA) contributed to (53.950%). The second step indicated that (OEA) and (SEA) collectively contributed with (76.830%), meaning that the relative contribution of (SEA) was (22.880%). The third step indicated that (OEA), (SEA) and (UOE) collectively contributed with (89.210%) meaning that (UOE) alone contributed with (12.380%). The fourth step indicated that (OEA), (SEA), (UOE) and (ROE) collectively contributed with (95.830%) meaning that (ROE) alone contributed with (6.620%). This showed the relative contribution of EI dimensions (SEA – OEA – UOE – ROE) on the quality of nursing services in hospitals. It is also clear from the four-step analysis that there is a statistically significant effect for independent variables and the stepwise regression factors including B, F, and Constant. Figure (1) indicated that most points are either on or close to a straight line. This indicates the normal distribution of standard residuals as dimensions WEILS (SEA – OEA – UOE – ROE) regresses on SERVQUAL applied to measure the quality of nursing services in Saudi private hospitals of the Eastern Zone.

A study investigated the quality of nursing services to identify patients' satisfaction levels and related factors in a university hospital in Turkey. Results indicated that the highest levels were in favor of "nurses' skills" and "nurses' respect for patients' privacy". Nevertheless, "nurses' efforts to make patients feel at home and patients' relatives and friends' satisfaction with the nurse" got the lowest values. This means that patients need more individual care from the nurse through contact to provide them with comfort <sup>[21]</sup>.

A study indicated that most medical errors happening annually are connected to wrong communication. Therefore, it is necessary to identify the skills that support accurate communication and information transformation in addition to optimal patient-focused care, jobs of the medical team and patients' safety. Results indicated that EI skills, for nurses and other specialties, improve communication, conflict resolution and performance of medical team members as EI positively affects patient's safety <sup>[22]</sup>. Another study investigated the effect of EI and job stress on exhaustion among hospital nurses. Results indicated that EI and job stress affect exhaustion. In addition, there were negative relations between EI and job stress as the increase of EI decreases stress and exhaustion. Accordingly, one plan to decrease job exhaustion syndrome among nurses is to concentrate on improving personal mental factors of the work environment including EI and job stress <sup>[23]</sup>.

The results of previous studies indicated positive relations among all dimensions of the EI Scale and job performance. Stepwise regression for work in medical and surgical wings indicated that EI dimensions (Expressing Emotions – Emotional Control) explained 19.1% of the variance in nurses' performance. These results asserted the relations between EI and nurses' care performance <sup>[24]</sup>.

Such results may help hospital directors to formulate effective strategies for assuring high quality of health care services for patients. Hospital administrations should consider the quality of special health care systems and improve the systems towards fulfilling all care needs. Also, this may help to identify patients' behaviors including satisfaction intentions and loyalty to quality health care services <sup>[19]</sup>.

This proves the fourth hypothesis stating: "There are relative contributions of the dimensions of EI Scale on the dimensions of Service Quality Scale in Saudi private hospital of the Eastern Province".

## Conclusions:

1. The quality of services in hospitals under investigation are high from patients' perspectives.
2. EI levels in hospitals under investigation are high from nurses' perspectives.
3. There are statistically significant positive correlations among EI dimensions (SEA – OEA – UOE – ORE) and

service quality dimensions (responsiveness – reliability – assurance – empathy – tangibles) with a total value of (0.897).

4. The relative contribution of EI dimensions ranged from (53.950%) for Others Emotion Appraisal (OEA) to (95.830%) for (OEA + SEA + UOE + ROE) as they collectively affect service quality.
5. Predicative equation for service quality can be formulated as follows:  $\text{Service Quality} = 12.412 + (0.511 \times \text{OEA}) + (0.254 \times \text{SEA}) + (0.109 \times \text{UOE}) + (0.084 \times \text{ORE})$ .
6. Increases in EI levels lead to similar increases in service quality in Saudi hospitals.

## Recommendations:

1. Using EI Scale (WEILS) for all members of medical teams.
2. Using service quality scale (SERVQUAL) from patients' perspectives regularly.
3. Using the predictive equation to identify the service quality level of Saudi private hospitals.
4. Improving service quality through spreading quality culture in private hospitals.
5. Studying EI of other members of medical teams (especially doctors) as it is closely related to EI in nurses.
6. Studying the effects of EI on service quality provided by other members of medical teams from patients' perspectives.
7. Studying the service quality factors that contribute most to achieving goals among doctors due to their relation to service quality among nursing staff from patients' perspectives.
8. Hospital administrations should consider improving health care service systems to improve the services that suffer shortage.
9. Consider governmental hospital.

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