Scale of Health-Based Relationship Quality (H-Rq): Development, Validity, and Reliability

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ABSTRACT

The aim of this study is to develop a measurement scale of health-based relationship quality (H-RQ) for doctor-patient-based services in Turkey. Four steps in the scale development procedure were applied: developing initial statements, administrating purifying measures, data collection, and evaluating the validity and reliability of the scale. The data were collected from a convenience sample (1179) of patients at private hospitals (746) and the largest dental hospital (433) owned by the state in Eskisehir, Turkey. Both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were used to test validity and reliability of the scale. The results of EFA and CFA indicated the satisfactory fit values about validity and reliability. The results of the study revealed six dimensions, which are: 'satisfaction', 'recognition and affinity', 'informing', 'emphatic customization', 'trust, and 'reciprocity'. The study has significant implications as to how well dentists and health managers design relationship strategies.

Keywords: Health services quality, Relationship quality, Health-based relationship quality, H-RQ, Health communications

INTRODUCTION

The paradigm of relationship-based marketing represents one of the most important reflections of the contemporary marketing approach [1]. One of the cornerstones of this paradigm is RQ [2], and there is an increasing number of studies addressing this topic in the context of both industrial marketing (B2B) and consumer marketing (B2C). RQ, which is a requirement of customer relationship management, has been studied in many different fields. In the contemporary marketing environment in which products resemble one another, RQ may be one of the best differentiation strategies.

One of the distinguishing characteristics of the health services sector is its dependence on the interaction between the two parties, with the relationship between the patient and the service provider playing a dominant role in any assessment of the provided service. The quality of the relationship formed with the patient determines, to a significant extent, whether the patient feels good after a visit, in that a patient who feels that their doctor has been sensitive to their needs would make a more positive evaluation of the services they receive. This and similar examples serve to show just how important RQ is in the field of healthcare.

Many existing studies of RQ adopt an industrial marketing approach, with particular focus upon the relationships between service businesses and customers [2], distributors and resellers [3], salespeople and customers [4], and export and import firms [5]. In this regard, their main emphasis is on the quality of the relationship for producers and businesses. In contrast, there are very few studies looking at the issue from the perspective of the relationship between the consumer and the service provider. Although previous literature has measured RQ between firms and customers, there is no developed scale of patients' perceptions. More precisely, the question of how patients evaluate RQ after they transact still remain unclear. Hence, academic studies and publications on health-based RQ are still limited. Thus, in this study, the researcher investigated scale items and dimensions related to RQ. In this way, a new scale was developed that measures patients as health consumer would make it possible to conduct systematic assessments of the relationship between patient and doctor.

LITERATURE REVIEW

RQ is the basic element reflecting the general structure of an exchange taking place between two parties (such as the patient and the doctor) [6]. Elsewhere, it has been defined as the quality of the interaction between the consumer and

the service provider, depending on the value acquired [7]. Hennig-Thurau and Klee [8] define RQ as "the degree of convenience that a relationship has for a customer when satisfying his or her needs" (p. 751).

Lages, et al. [5], in their study of RQ in export businesses, focused on four factors: The level of knowledge sharing, communication quality, long-term relationship orientation and satisfaction. In the case of healthcare services, due to their unique nature, RQ is a more sensitive issue than in other fields. RQ is influenced by factors such as the amount of information provided by the physician about the illness, the physician's ability to put themselves in the place of the patient, whether the benefit is worth the money, time or effort expended commitment and satisfaction.

RQ can be regarded as a meta-structure that consists of various components and reflects the nature of the relationship between the consumer and the business [6,9]. In the following section, the dimensions of RQ that result from the nature of healthcare services are discussed in line with existing literature.

Satisfaction

One of the basic tenets of relationship marketing is to create satisfied customers and to maintain value by retaining customers [10]. Customer relationships form the basis of customer satisfaction and, by extension, brand or business loyalty. In addition, research suggests that individuals who are satisfied with a relationship tend to continue the relationship into the future [3]. In this respect, satisfaction is considered an important dimension at almost all scales in RQ, and is one of the leading points of emphasis in both conventional marketing and in the marketing of healthcare services. In today's highly competitive market environment, healthcare providers cannot afford to overlook the issue of satisfaction. Indeed, patient satisfaction is considered to be a major indicator in the development and assessment of healthcare services [11]. Of course, the healthcare sector, by its very nature, differs from other sectors in some respects. That said, issues such as the relationship between the physician and the patient, empathy and knowledge sharing are either directly or indirectly related to satisfaction. In the case of health services, satisfaction includes whether the hospital meets the patient's needs, desires and goals and creates contentment, and indeed the removal of a source of discontent for the patient by the hospital results in feelings of satisfaction. Satisfaction is also a prerequisite for trust, which is another component of RQ [9]. Satisfaction from health services depends on the value acquired from the service, and so perceived value is thus an antecedent of satisfaction.

Recognition and affinity

Recognition and affinity are not an aspect of RQ in other products or services, but have significant importance in healthcare services. A patient's ability to deal with issues of privacy is related to this dimension. Healthcare service customers feel more comfortable if the service provider is an acquaintance or someone with which they have an affinity, especially when receiving such services as psychiatry, sexual health, gynaecology or urology. In some fields, this is related to long-term relationship orientation, which is associated with profits in the case of conventional products [5], but may have a different function in healthcare services. Dwyer and Oh [12] view long-term relationship as an important indicator of trust and satisfaction. Furthermore, according to Shamdasani and Balakrishnan, [13], similarity refers to the extent to which members of two sides, patient and doctor, is similar in personal attributes, characteristics [14], and share common interests and values [15]. It can be concluded from writings by Shamdasani and Balakrishnan, [13] that patient and physician similarity play an important role early in the relationship, hence facilitating the initial dialogue and the establishment of an initial level of comfort between patients. Affinity in the context of the patient-doctor relationship can be defined as the patient's choice of doctor who is in some ways similar to himself/herself and understand him/her.

Trust

The trust dimension of RQ represents a complicated and comprehensive construct, containing such components as integrity, reliability and confidence [3]. Trust plays an important role in both interpersonal and group behavior, and in the development of business relationships. In addition, trust has the power to influence attitudes and behaviors toward service providers, and contributes to the stability and continuity of the relationship between the supplier and the customer [16]. What's more, Crosby, et al. [17] conceptualizes trust and satisfaction as higher order constructs. Accordingly, trust is considered to be one of the main dimensions of RQ in all fields, in that a relationship not based on trust would be of poor quality. Trust is considered to be a necessary ingredient of a long-term relationship [18] and studies [19] have demonstrated its effect on loyalty. According to Hennig-Thurau, et al., trust emerges when a consumer (e.g. a patient) believes that the service providing party (e.g. a doctor) is trustworthy. Trust has two main dimensions: honesty and benevolence, with honesty referring to whether the hospital keeps its promises, and benevolence referring to beliefs about the hospital's concern for the well-being of the patient [9].

Informing

The level of information sharing is considered to be an important quality indicator in the field of healthcare, and some patients receiving services are especially concerned about information. In non-service contexts, such the relationship between importers and exporters [5], the level of information sharing is emphasized, and passing on information is characterized as a dimension of RQ. Healthcare service consumers expect to be given more detailed information that consumers of conventional services, which is because this knowledge is crucial for their health and well-being. In this regard, passing on information is considered to be an indispensable element of RQ in the field of healthcare. In a study of service quality as perceived by inpatients in hospitals, the lowest averages were recorded related to level of information sharing [20], and receiving sufficient information about the illness and its treatment constitute the greatest concerns among patients.

Emphatic customization

Service customization is on its way to becoming a very popular method of meeting consumers' diverse expectations [21], and this aspect of customization makes it one of the main dimensions of RQ. From the perspective of patients, the customization of healthcare services has always been an important dimension of service quality, as every individual patient expects to be treated well and to feel special [22]. Adapting the provided service to personal characteristics is only possible if employees know about the needs of consumers [23], and a similar situation arises in the case of healthcare services. To obtain better results, doctors can provide information about healthcare services according to the personal and psychological characteristics of the individual. Providing detailed information about health problems to patients with high levels of anxiety may create problems, and so in the provision of healthcare, it would be useful to empathize with the patient and to customize communication on the basis of the needs and characteristics of the patient and the importance of the information. The conventional notion of doctor-patient relationship implies that customization is at the center of the approach to care of health professionals. The two basic approaches to customization in healthcare are patient-centered care (organizing care on the basis of the individual needs of the patient) and personalized medicine (customizing therapy on the basis of the biological characteristics of the patient) [22]. In contrast to standardized offerings, customization refers to the service providers' personalization of services in line with the characteristics, needs and desires of the patient. This improves perceived value and satisfaction [21]. Empathy is one of the factors affecting the assessment of service quality [24], taking individual-specific conditions into account so as to deliver the best service possible by understanding the needs of the consumer. In the provision of healthcare services, customization necessarily involves empathy.

Reciprocity

This dimension refers to whether patients' expectations are met in terms of the value that they get in return for the money, time and effort spent. Healthcare services are distinguishable from many other services, in that they are result-oriented. The process is also important for overall RQ, but getting results is a more important determinant of satisfaction. This is because patients visit doctors to find solutions to their health problems, and would like to avoid re-visiting the doctor as long as possible. This shows that patients are result-oriented. Their satisfaction with doctors who are able to cure their diseases would be high, and when they are satisfied, they are likely to communicate their satisfaction to other people via word of mouth.
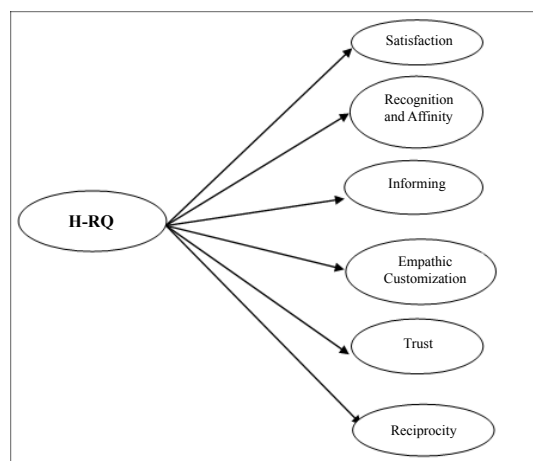

Figure 1 Components of H-RQ

METHOD

Instrument development

The aim of this study is to develop a measurement scale of H-RQ for the health care sector in Turkey. Traditional approach to scale development was applied, following the steps proposed by Churchill [25] : developing initial statements, administrating purifying measures, data collection, and evaluating the validity and reliability of the scale. Following the review of extant RQ literature, the researchers betray six dimensions. To generate statements that consisted of the domain of opinions about H-RQ four focus groups were conducted to 35 patients (9, 9, 10 and 7 patients, respectively). Focus group interviews lasted between 45 and 138 minutes. In constructing the sample of focus groups, respondents were selected based on being represented the population in terms of demographic characteristics, frequency of hospital use, physician relationship level. In focus group studies, a purposive sampling technique was employed. In addition to the focus groups interviews, statements used in this part were adapted from previous studies related to scales of RQ [5,9,17]. Based on the literature review and findings from focus group interviews, the domain of the construct was specified to include six H-RQ constructs. Also, following the scale development procedures outlined by Newell and Goldsmith [26] an initial pool of items hypothesized to be indicators of the six dimensions were gathered and evaluated for content validity. The scale resulted from a combination of exploratory qualitative focus group interviews, a review of the RQ literature and pretest study. A set of items contained 37 statements designed to measure each of these dimensions was developed. As recommended by Hardesty and Bearden [27], five academicians were asked to determine the content validity of the items. The original items had to undergo minor modifications, and consequently, the name of the four dimensions had to be modified for purposes of clarity and specificity. As suggested by scholars [28,29] working on scale development process, the measures were then refined through interviews with people capable of understanding the nature of the concept being measured, such as academicians in health care, service marketing. Based on this notion, these measures were adjusted to relationship between patients and physicians. Lastly, the scale was further pre-tested on a group of 67 consumers which were judged to be representative of the target population. Both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were used to test validity and reliability of the scale. Thirteen items of scale were removed due to the low factor loadings or multi-factorial loading. In the end, a full listing of the 24 final items and their scale reliability is seen in Table 2 and Appendix 1. A five-point Likert-type scale ("5" strongly agree, "1" strongly disagree) was used by respondents in responding to statements of R-RQ scale (Figure 1).

Sample

A self-administrated and researcher-aided questionnaire was distributed by fifteen trained university students (surveyors) who take marketing research course. The venues of the research were examination waiting areas, canteens of private and public dental hospitals, homes, business venues, and streets. The questionnaires were answered by respondents in the researchers' presence. The surveyors first approached potential respondents. Due to the importance and sensitivity of the issue, surveyors first briefly explained the research purpose, and then gave the questionnaires to willing participants. In lower educational groups and for groups of respondents who needed further explanations in filling out the questionnaires, surveyors helped the respondents fill out the forms to a greater degree than they did for respondents with higher educational levels. In cases of refusal, the surveyors thanked the individual and approached another candidate. The explanation and the filling out of the questionnaire took approximately 18 minutes. The respondents in the study were from a city dental hospital and two private hospitals in a single mid-sized city in the central region of Turkey. From the 1500 questionnaires distributed, 1242 were returned for a response rate of 82.8%. Of these, 63 responses were rejected because many items were left blank, yielding a final usable response rate of 78.6%. In total, the data were collected from a convenience sample (1179) of patients at private hospitals (746) and the largest dental hospital (433) owned by the state in a city of Turkey.

RESULTS

Sample characteristics

Table 1 reports the characteristics of the whole sample, as well as individual samples from private hospitals and from a public dental hospital. The whole sample contains more women (58.9%) than men (41.1.6%), and the age groups 26-35 (39.1%), 36-45 (23.6%) and 18-25 (23%) constitute most of the participants. Housewives constitute the largest category (31%) in terms of occupation, followed by workers. In terms of level of education, college graduates are the largest group (35.7%), followed by high school graduates (32.9%) and graduates of elementary and middle schools (28.4%). In terms of average monthly income, the ratio of participants in the income bracket USD434-866 (36.6%) is

very close to the ratio of participants with a monthly income of less than USD433 (35.7%). Details of the demographic characteristics of people receiving services from private hospitals and from the public dental hospital are reported in Table 1.

Table 1 Characteristics of samples

Variables		Whole Sample		Dental Hospital Sample		Private Hospital Sample	
		f	%	f	%	f	%
		1179	100	433	36.7	746	63.3
Gender	Male	485	41.1	197	45.5	288	38.6
	Female	694	58.9	236	54.5	458	61.4
Age	18-25	271	23	155	35.8	116	15.5
	26-35	461	39.1	105	24.2	356	47.8
	36-45	278	23.6	90	20.8	188	25.2
	46-55	120	10.2	64	14.8	56	7.5
	56 and >	49	4.2	19	4.4	30	4
Occupation	Public Official	154	13.1	43	9.9	111	14.9
	Worker	184	15.6	55	12.7	129	17.3
	Retired	85	7.2	43	9.9	42	5.6
	Homemaker	365	31	96	22.2	269	36.1
	Manager	42	3.6	16	3.7	26	3.5
	Tradespeople	49	4.2	16	3.7	33	4.4
	Self Employed	70	5.9	28	6.5	42	5.6
	Student	163	13.8	123	28.4	40	5.4
	Other	67	5.7	13	3	54	7.2
Education	Primary or Secondary	335	28.4	114	26.3	221	29.6
	High School	388	32.9	132	30.5	256	34.4
	Undergraduate	421	35.7	174	40.2	247	33.1
	Post graduate	35	3	13	3	22	2.9
Monthly Income	433 USD and <	421	35.7	199	46	222	29.8
	434- 866 USD	431	36.6	144	33.3	287	38.5
	867- 1299 USD	222	18.8	71	16.4	151	20.2
	1733 USD and >	105	8.9	19	4.3	86	11.5

Table 2 Fit values for samples

Estimates	WS*	DHS**	PHS***	Acceptance Levels
X^2	1008.7	561	1042.36	-
df	237	237	237	-
p	0	0	0	> 0.05
X^2/df ratio	4.25	2.36	4.39	< 3 or 5
Root Mean Square Error of Approximation (RMSEA)	0.053	0.056	0.068	< 0.08
Std. Root Mean Square Residual (SRMR)	0.037	0.037	0.048	< 0.08
Normed Fit Index (NFI)	0.99	0.98	0.98	> 0.95
Non-Normed Fit Index (NNFI)	0.99	0.98	0.99	> 0.95
Comparative Fit Index (CFI)	0.99	0.99	0.99	> 0.95
Incremental Fit Index (IFI)	0.99	0.99	0.99	> 0.95
Goodness of Fit Index (GFI)	0.93	0.9	0.9	> 0.90
Adjusted Goodness of Fit Index (AGFI)	0.92	0.88	0.87	> 0.90
WS*= Whole Sample, DHS**= Dental Hospital Sample PHS***= Private Hospitals' Sample				

Factor analyses

Prior to exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), both univariate and multivariate non-normality were examined. Univariate non-normality was tested using skewness and kurtosis. The extreme among all the variables was 2.26 for kurtosis and −1.37 for skewness for one variable. The criteria were that skewness should be less than 2 [30] and kurtosis less than 7, as suggested by Curran, West and Finch [31]. Initially, exploratory factor analysis (EFA), utilizing principal axis analysis with varimax rotation, was applied on the 24 items related

to H-RQ. Following scale development procedures, the items were purified utilizing data reduction and reliability analyses. To apply the factor analysis on H-RQ items, it is necessary to test the Kaiser-Meyer Olkin (KMO) measure of sampling adequacy. For the whole sample, Kaiser-Meyer Olkin (KMO) was 0.962, indicating that the sample was adequate for factor analysis [32]. The Bartlett Test for Sphericity (BTS) was 22337.301 (p<0.001), indicating that the hypothesis variance and covariance matrix of variables as an identity matrix were rejected; therefore, factor analysis was appropriate. According to the principal axis analysis, six factors had an Eigen value equal to or greater than 1.0 [32], explaining a total of 72.335% of the variance. Valid EFA results were obtained in the dental and private hospitals.

Table 3 Dimensions regarding H-RQ

Dimensions	WS*		DHS**		PHS***	
	Std. Loads	CR, AVE, Alpha	Std. Loads	CR, AVE, Alpha	Std. Loads	CR, AVE, Alpha
Trust	-	0.94, 0.83, 0.93	-	0.91, 0.78, 0.91	-	0.95, 0.86, 0.93
TRU1	0.87	-	0.81	-	0.88	-
TRU2	0.94	-	0.93	-	0.95	-
TRU3	0.92	-	0.9	-	0.95	-
Recognition and Affinity	-	0.89, 0.67, 0.87	-	0.89, 0.67, 0.89	-	0.87, 0.62, 0.85
REA1	0.76	-	0.77	-	0.74	-
REA2	0.82	-	0.85	-	0.77	-
REA3	0.88	-	0.87	-	0.86	-
REA4	0.8	-	0.79	-	0.78	-
Reciprocity	-	0.91, 0.72, 0.9	-	0.89, 0.66, 0.88	-	0.93, 0.76, 0.91
REC1	0.76	-	0.71	-	0.78	-
REC2	0.86	-	0.81	-	0.9	-
REC3	0.89	-	0.88	-	0.89	-
REC4	0.88	-	0.85	-	0.9	-
Informing	-	0.93, 0.77, 0.93	-	0.92, 0.74, 0.92	-	0.94, 0.80, 0.79
INF1	0.84	-	0.81	-	0.86	-
INF2	0.88	-	0.84	-	0.9	-
INF3	0.91	-	0.91	-	0.92	-
INF4	0.87	-	0.87	-	0.9	-
Emphatic Customization	-	0.88, 0.65, 0.87	-	0.86, 0.61, 0.85	-	0.87, 0.63, 0.87
ECU1	0.81	-	0.82	-	0.79	-
ECU2	0.86	-	0.84	-	0.86	-
ECU3	0.75	-	0.7	-	0.71	-
ECU4	0.8	-	0.75	-	0.81	-
Satisfaction	-	0.95, 0.78, 0.94	-	0.93, 0.73, 0.93	-	0.95, 0.81, 0.86
SAT1	0.89	-	0.87	-	0.91	-
SAT2	0.86	-	0.81	-	0.88	-
SAT3	0.9	-	0.89	-	0.91	-
SAT4	0.9	-	0.9	-	0.91	-
SAT5	0.86	-	0.81	-	0.88	-
WS*= Whole Sample, DHS**= Dental Hospital Sample PHS***= Private Hospitals' Sample						

After applying EFA, the study utilized the purified dataset for confirmatory factor analysis (CFA) via Lisrel 8.80 software. A six-factor model using all 24 indicators was estimated. Table 2, indicates the fit indices in terms of whole sample, dental hospital, and private hospitals. Acceptable CFA results were achieved for three samples. The GFI, CFI, and NFI exceeded 0.95, and the RMSEA and SRMR were less than 0.08, indicating an acceptable model fit [33]. According to Chiu and Wang [34], AGFI and NNFI should exceed 0.8, 0.9, respectively.

Additionally, the observed normed X^2 for this model was 4.25 (X^2= 61.00, df=237) for whole sample, which is more than 3, as recommended by Bagozzi and Yi [35], showing a good model fit when sample size is considered. Moreover, the X^2/df ratio of less than 5 is used as the common decision rule of an acceptable overall model fit [36]. Therefore, ratio of 4.25 is indicating an acceptable fit. All measures of the goodness-of-fit (NFI, NNFI, CFI and IFI>0.95; GFI and AGFI>0.90; RMSEA and SRMR<0.08) suggested that the fit measurement of the model was acceptable for all

of three samples, as shown in Table 2. For private hospital sample, except the ratio of X^2/df (4.39) but acceptable, the overall goodness of fit for the model was consistent with the recommended level, NNFI=0.98; NNFI=0.99; (CFI)=0.99; the IFI=0.99; GFI=0.90; AGFI=0.87; RMSEA=0.068 and SRMR=0.048. Moreover, in terms of dental hospital, All the values of goodness of fit statistics were within the acceptable ranges, indicating a good fit to the data. Based on these findings it can be concluded that the model of the H-RQ scale was empirically supported (Table 3).

Reliability and validity

Reliability was evaluated using Cronbach's α, composite reliability (CR), and average variance extracted (AVE) [37]. A scale is deemed reliable if Cronbach's alpha >0.7 [38], CR>0.6, and AVE>0.5 [35]. Cronbach's α coefficients were all higher than the minimum value of 0.7 [38]. The values of the reliability coefficient ranged from 0.79 to 0.94, indicating satisfactory values [38]. All composite reliability coefficients were greater than 0.86, and all constructs had an AVE of at least 0.62, indicating adequate internal consistency [37].

To assess this aspect of convergent validity, factor loading size and significance are assessed. Strong evidence is achieved when the squared factor loading is greater than 0.5. As shown in Table 3, standardized factor loadings for all measures are greater than 0.70, and all are statistically significant at p<0.05. In the whole sample for the best fitting model, the factor loadings ranged from 0.86 to 0.90 (satisfaction), 0.76 to 0.88 (recognition and affinity), 0.84 to 0.91 (informing), 0.75 to 0.86 (emphatic customization), 0.87 to 0.94 (trust), and 0.76 to 0.89 (reciprocity). Similarly, factor loadings for dental and private hospitals ranged from 0.71 to 0.95, indicating satisfactory results in terms of convergent validity.

To assess discriminant validity, subscales must be examined to ensure they are not perfectly correlated (correlations equal to 1). Table 4 reports the correlation coefficients between the factors that make up the RQ in the whole sample, as well as in the individual samples for private hospitals and for the public dental hospital. The correlation coefficients point to a significant relationship (p<0.01) between factors. This result is also considered as an indicator of discriminant validity.

Table 4 Correlation matrix

Whole Sample						
Constructs	1	2	3	4	5	6
Trust	1	-	-	-	-	-
Recognition and Affinity	0.37*	1.00	-	-	-	-
Reciprocity	0.63*	0.50*	1	-	-	-
Informing	0.64*	0.38*	0.73**	1	-	-
Emphatic Customization	0.52*	0.57*	0.65*	0.66*	1	-
Satisfaction	0.66*	0.45*	0.73*	0.75*	0.66*	1
Mean	4.28	2.48	3.8	4.06	3.29	4.05
SD	0.79	1.01	0.94	0.9	0.97	0.93
Dental Hospital Sample						
Trust	1	-	-	-	-	-
Recognition and Affinity	0.27*	1.00	-	-	-	-
Reciprocity	0.52*	0.38*	1	-	-	-
Informing	0.54*	0.24*	0.67*	1	-	-
Emphatic Customization	0.46*	0.47*	0.59*	0.59*	1	-
Satisfaction	0.57*	0.34*	0.68*	0.68*	0.59*	1
Mean	4.16	2.07	3.64	3.98	3.03	3.92
SD	0.81	0.94	0.88	0.89	0.94	0.91
Private Hospitals Sample						
Trust	1	-	-	-	-	-
Recognition and Affinity	0.41*	1.00	-	-	-	-
Reciprocity	0.68*	0.54*	1	-	-	-
Informing	0.60*	0.42*	0.68*	1	-	-
Emphatic Customization	0.54*	0.58*	0.67*	0.64*	1	-
Satisfaction	0.68*	0.49*	0.73*	0.69*	0.66*	1
Mean	4.36	2.72	3.89	4.11	3.43	4.13
SD	0.78	0.98	0.95	0.97	0.95	0.97
*p < 0.01; 5 = Strongly agree, 1 = Strongly disagree SD= Standard deviation						

RESULTS AND DISCUSSION

This study aimed to develop a scale for RQ in the context of service received from doctors in hospitals. Both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) was used to test validity and reliability of the scale. The results of EFA and CFA indicated the satisfactory fit values about validity and reliability. The result of the study revealed six dimensions, which are: 'satisfaction', 'recognition and affinity', 'informing', 'emphatic customization', 'trust' and 'reciprocity'.

The most significant aspect of this study was its development of a scale specifically for health services, unlike other scales in literature. In contrast to existing scales, new dimensions were discovered in the context of the doctor-patient relationship. The first of these dimensions, emphatic customization, combines customization and empathy, and is the dimension that receives the most emphasis in service quality scales. This result is in line with the empathy dimension of service quality, but is different and novel in terms of the customization aspect it introduces. None of the RQ scales developed so far in different fields have focused on this factor. In contemporary marketing approaches that are dominated by the service economy, one of the most important strategies is the adaptation of messages to special circumstances of individuals. Because this is a more sensitive issue in healthcare services, it has emerged as an important dimension of the scale. The customization of healthcare services on the basis of the physical and psychological characteristics of the patient brings additional benefits and this phenomenon seems to have underlined the importance of emphatic customization.

Another dimension that is absent in previous literature but emerged in the development of this scale was the aspect of informing. While this factor resembles the amount of information shared factor defined by Lages, et al. [5], in healthcare services, it is consumer or patient-oriented. Lages, et al. [5] focus on the amount of information shared in the relationship between businesses, whereas in the present scale, this dimension is about whether sufficient and accurate information is given by the service provider in the doctor-patient relationship. The dimension of informing in the context of RQ also removes a deficiency identified by Argan and Tokay Argan [20].

Reciprocity, another dimension of the scale, concerns whether the value to the patient was worth the time, money and effort spent. From one perspective, this dimension may be associated with commitment in service quality, which is an important factor that is emphasized in many service quality scales. However, the dimension of reciprocity in the present scale refers to the elimination of the health problem in question, or the patient getting what they think is best for them.

The dimension of recognition and affinity was also unique to healthcare services. The reputation and expertise of the service provider, as well as the concern they demonstrate for the patient, emerged as an important dimension, although it should be emphasized that this dimension is based on expertise and skills.

Satisfaction and trust, two factors that are underlined in almost all scales of RQ, were also included in the present scale that has specific emphasis on healthcare services. In this respect, the present scale can be considered similar to all other scales [5,9,17] in literature.

CONCLUSION

In conclusion, this study, based on the development of a scale specifically for healthcare services, draws attention to new dimensions, and points to the fact that healthcare services, by their very nature, are different from conventional services.

Although this study reveals the RQ scale in terms of doctor-patient relationship, it is important to also mention its limitations and suggestions for future research. Since this scale study is close to relationship in terms of doctor-patient relationship, future studies may seek to consider other health relationships between patients and other parties. More clearly, future studies should consider a RQ based on a holistic approach. The sample of this study was drawn from dental and private hospital a single city in Turkey, suggesting that the results of this study need to be validated in other countries or other health services.

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CONFLICT OF INTERESTS

There is no conflict of interest.

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Appendix 1 Dimensions and items of H-RQ

Trust
TRU1- I think my doctor is trustworthy.
TRU2-My doctor is reliable.
TRU3- I have full confidence in my doctor.
Recognition and Affinity
REA1- I know a lot about doctor.
REA2- I think I know and understand my doctor well.
REA3- I can identify the doctor myself.
REA4- I have similarities with my doctor.
Reciprocity
REC1- The doctor meets my expectation.
REC2- I get the benefits of the money I spend for my doctor.
REC3- I get the benefits for the service my doctor provides.
REC4- I think that it is worth for time and money I spend on my doctor.
Informing
INF1- My doctor give enough information about diagnosis.
INF2- The doctor gives me detailed information about medicines.
INF3- I think the doctor has enough to talk about the disease.
INF4- I think the doctor has enough to inform me about treatment process.

Emphatic Customization
ECU1- My doctor makes empathy when communicating.
ECU2- My doctor cares how I feel and think.
ECU3- My doctor gives me a personalized message.
ECU4- I think that my doctor understands me and he/she communicates accordingly.
Satisfaction
SAT1- Next time I will choose the same doctor.
SAT2- The experience I got from my doctor is satisfactory.
SAT3- In the future, this doctor will be my first choice.
SAT4- I choose this doctor if I need again.
SAT5- I mostly prefer my own doctor without considering another one.