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CUSTOMER SERVICE QUALITY AT COMMERCIAL HEALTH AND FITNESS CENTRES

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ABSTRACT

Despite the interest in service quality, little research has been reported in South Africa on health and fitness service quality. The study adopted a conceptual framework for identifying factors that influence fitness service quality in commercial health and fitness centres in South Africa. A structured questionnaire containing 59 variables relating to health and fitness service quality was administered to 251 health and fitness centre patrons. A 39 item scale was finally developed using exploratory factor analysis to measure service quality along eight dimensions, namely, personnel, programming and medical, convenience and information dissemination, functionality and layout, ambience and accessibility, facility attraction, safety and support and membership. Reliability and validity of the scale was established. The human interaction dimensions (personnel) emerged as the most pertinent in health and fitness service quality evaluation. The results indicate differences in items perceived by patrons in measuring health and fitness service quality compared to those developed previously in sport and recreation studies. The implications for future research are outlined.

Key words: Customers; Service quality; Commercial; Fitness centres.

INTRODUCTION

Quality, which has been of interest to marketing academics and managers, has received considerable attention from service marketing researchers in the last 15 years (Reynoso & Moores, 1995; Kelly & Turley, 2001). Whilst products, process quality, and total quality emerged as prime concerns in the manufacturing sector, service quality is acknowledged to be critical for all types of organisations (Ennew *et al*., 1993). Irrespective of whether quality initiatives are seen as innovators or a distillation of established models, service quality has become a staple of current management thought (Chelladurai & Chang, 2000). Attempts were made by researchers to answer some basic questions about service quality judgements made by customers, how customers evaluate quality, and what aspects of the service are assessed (Lentell, 2000). These questions are of significance to managers, including managers of sport and recreational services. Knowledge of service quality assessments made by customers would enable managers to track customer perceptions over time and to direct resources in areas which are important to customers. Whilst health and fitness service providers may produce the same type of services, they do not provide the same quality of service (Crompton

& MacKay, 1989). Services offered by different providers may look alike, but to users they may not "feel alike". On the subject of service quality in a recreation context, Wager (1966: 12) noted that, "quality is a human concept based on highly subjective criteria… and seems to be a highly personal matter. Thus it has to be investigated from the perspective of users".

Currently, service quality is a focus for many corporate and marketing strategies and high levels of services rendered are seen as a means for an organisation to achieve competitive advantage and differentiation (Berry, 1986; Reichheld & Sasser 1990; Metha *et al*., 2000). To achieve competitiveness and differentiation requires management of health and fitness centres to understand consumer needs and promote services in an efficient and co-ordinated way that satisfies these needs (Harris & Harrington, 2000). With the proliferation of sport and fitness centres, sport service providers place greater emphasis on quality issues and efficient operations in order to remain profitable (Papadimitriou & Karteroliotis, 2000).

Whereas literature on service quality is in its formative stages (Papadimitriou & Karteroliotis, 2000; Chang *et al*., 2002), an exponential growth has been witnessed, focussing on recreation and sport, resulting from concerns about wellness, changes in lifestyles and pressures of work (Chad, 1995; Porter, 2005). Customer perceptions of service experiences are vital to the success of all service organisations (Kelly & Turley, 2001). A service encounter in a sport context can be very complex in that it often takes place over an extended period of time and can be influenced by a wide variety of factors. Factors that influence the quality of a service encounter in service settings include *inter alia*, the aesthetics, functionality, layout, facilities and staff interaction.

PROBLEM STATEMENT

Service quality has emerged as a pervasive theme in recreational services (Crompton *et al*., 1991). However, service management is significantly different from product management. Researchers have suggested that it is the presence of customers in the service production, which distinguishes service management from product management (Lentell, 2000). The intangible and abstract nature of service quality makes it difficult for both public users of a service and researchers to articulate and evaluate quality. Service quality is difficult to define and measure. Although researchers have studied the concept of service for several decades, no consensus has been reached on the conceptualisation of service quality (Cronin & Taylor, 1992). Most authors identify four characteristics, namely intangibility, heterogeneity, inseparability and perishability, which distinguish a service from a physical product (Smith, 1990). These widely cited attributes penetrate any kind of service, including sport and recreational services. Understanding the complexity of service therefore requires a clearer understanding of its attributes.

Firstly, unlike mainstream business products, sport and leisure services are intangible and highly subjective. To reduce uncertainty, buyers look at signs or evidence of service (Lentell, 2000, Zeithaml & Bitner, 2000). Secondly, whereas goods are first produced, then sold and consumed, services are first sold then produced and consumed simultaneously. Many of the personnel involved in the production, such as instructors and administrators, are also consumers simultaneously. Thirdly, the quality of service performance is inconsistent and unpredictable, and thus also varies from one service organisation to another (Kotler, 2000), which results in non-standardisation of a health and fitness centre's output. Fourthly, services

cannot be stored and cease to exist the moment they are created. Service marketers are therefore unable to keep an inventory of their services for later use during peak demand (Du Plessis *et al*., 1995). As sport and leisure service do not have a shelf-life, the service provider therefore needs to get the service right the first time. Fifthly, in health and fitness, services cannot be counted, but only experienced or perceived while produced in a facility or arena, which further complicates measurement attempts, as the sport experience is accompanied by emotional attachment and identification. For instance, consumers may identify with, and become attached to specific brands, instructors, or health clubs (Parkhouse, 2005).

SERVICE QUALITY AND ITS MEASUREMENT

The unique nature of services has forced researchers to acknowledge that service quality is a construct, which requires multiple perceptual measures in order to be conceptually captured (Parasuraman *et al*., 1985; 1988) in the minds of people (Cameron & Whetten, 1983). This adds to the problem of obtaining a universally accepted definition of service quality. Some researchers used basic theories in an attempt to conceptualise service quality, namely, the Attribution and Satisfaction theories (Boshoff, 1990).

The Attribution theory views service quality from a product-quality perspective by describing the attributes of the service delivery system. The theory assumes that the attribute of that which is believed constitutes service quality can be manipulated by management. Gummesson and Grönroos (1987) for instance, identify four “qualities” that establish perceived quality: design quality, production quality, delivery quality and relational quality. These "qualities" are regarded by the authors as being just as equally applicable to services.

The Customer Satisfaction theory (Klaus, 1985) regards service quality as a perception of quality: a service is only of the desired standard if the customer sees it as quality. Within this theory, service quality is defined as the difference between expected service and actual service received. Delivering quality service means conforming to customer expectations on a consistent basis. Haywood-Farmer (1988) asserted that service quality comprises three elements, namely, physical facilities, processes and procedure, personal behaviour and professional judgement on the part of serving staff. To obtain good quality service, the appropriate mix of these three elements must be found and carefully balanced.

There also appears to be some degree of consensus that service quality is the user's judgement about an organisation's overall excellence or superiority of the delivery of service (Parasuraman *et al*., 1988; Terblanche, 1998; Sivadas & Baker, 2000). Parasuraman *et al.* (1988) identified various dimensions of service quality. The authors describe service quality as the difference between customer expectations and perception of the service actually received. On the other hand Grönroos (1984) maintains that service quality consists of three dimensions, namely technical quality, functional quality and corporate image. The technical quality of an outcome refers to the actual outcome of the service encounter. The customer will also be influenced by the way in which the technical quality is transferred functionally. The accessibility of the facility personnel, the appearance, behaviour, what they say and how they say it, also impacts on the customer's view of the service. The functional quality answers the question, how the customer gets the service. Corporate image refers to the consumer's general perception of the supplier of the service. Evident from these definitions is that service quality

is a highly subjective concept and many factors, both internal and external, influence a customer's expectations of a service.

Perhaps the seminal works in conceptualising and operationalising of service quality can be traced to the SERVQUAL instrument of Parasuraman *et al.* (1988), which measures service quality along five factors. It forms the cornerstone on which all other works have been built (Sureshchander *et al*., 2002). Using ten dimensions initially, Parasuraman *et al*. (1988) made their first effort to operationalise the concept of service quality. A twenty-two-item scale, comprising five dimensions, namely reliability, responsiveness, tangibles, assurance, and empathy was finally developed. Reliability is defined as the ability to perform the promised service dependably and accurately; tangibles refer to the facilities, equipment and the personal appearance of staff; responsiveness refers to the prompt attention and willingness of the staff to help the service users; assurance represents courtesy, credibility and competence on the part of the staff; and empathy relates to care and individual attention given by staff to users, while purchasing the service. Whilst the original SERVQUAL instrument has been revised, refined and reformulated (Parasuraman *et al*., 1991; 1994) its primary content remains unaltered.

Although both academics and practitioners have utilised the SERVQUAL model extensively since its inception in the mid-1980's, it is not without its critics (Buttle, 1996; Williams, 1998). Analysis of the SERVQUAL literature indicates that the application of the model varies in different countries and cultures (Carman, 1990; Cronin & Taylor, 1992; Babakus & Boller, 1992; Teas, 1993). Buttle (1996) re-iterates that critics have raised a number of related questions about the dimensionality of the SERVQUAL scale. In the context of recreational services, Taylor *et al*. (1993) established that in a range of recreational services, the five SERVQUAL dimensions were unstable. This leads to the question of whether SERVQUAL is a generic model capable of being applied to all the service industries or if each type of service requires an adapted instrument.

In the field of Sport Management and Marketing, researchers have begun to conceptualise and measure the constructs of service quality and satisfaction (Kim & Kim, 1995; McDonald *et al*., 1995; Papadimitriou & Karteroliotis, 2000). However, the study of quality in sport services has been limited in terms of the number of studies and their scope. The few studies in this regard have focused on identifying dimensions of quality in specific services. The early studies of Chelladurai *et al*. (1987) identified five dimensions of fitness services, measured by a Scale of Attributes of Fitness Services (SAFS). These dimensions were categorised as primary-professional, primary consumer, primary-peripheral, primary-facilitating goods, and secondary goods and services. Later Kim and Kim (1995) measured service quality using thirty-three items, comprising eleven dimensions. These dimensions were labelled ambience, employee attitude, reliability, information, programming, personal consideration, privileges, price, ease of mind, stimulation and convenience. Howat *et al*., (1996) developed the Centre for Environmental and Recreation Management – Customer Service Quality (CERM-CSQ) scale to measure services in sport and leisure services. The authors categorised a service quality scale into four dimensions, namely, core services, staff quality, general facility, and secondary services. Recently Chelladurai and Chang (2000) proposed a framework for understanding quality in sport services. This framework was presented from three perspectives, namely targets of quality, standards of quality, and evaluators of quality. This perspective in essence encapsulates the various dimensions of quality of services in sport. Papadimitriou & Karteroliotis (2000) suggested a four-factor model (FITSSQ) with 24 items

for fitness service quality expectations. The factors extracted were instructor quality, facility attraction and operation, program availability and delivery, and other services. In addition the authors found that the SERVQUAL scale was not an adequate scale to measure service quality in a leisure activity setting.

On examining the studies done in sport marketing and recreation, one finds that the research has been context specific (Theodorakis *et al*., 2001). Howat *et al*. (1999) for example, attempted to establish if significant differences exist among service quality, satisfaction and future patronage. The authors have found that respondents scored higher ratings for both service quality and satisfaction when they did not experience a problem with the service. Studies undertaken by Taylor *et al. (*1993) of two sport settings (a health club and a golf course) found that service quality positively influences satisfaction.

Although service quality may be evaluated in an overall gestalt, such an evaluation is of little value to managers (Crompton & MacKay, 1989). To maintain or improve service quality, managers of health and fitness centres must identify the dimensions of the service that are most important to patrons so that they can modify their management practices and allocate their resources effectively.

Hence, the current study provides an exploratory empirical assessment of the important service attributes in health and fitness centres. The main aim of the study was to develop a set of attributes, which can be incorporated in the measure of service quality at commercial health and fitness centres in South Africa. Commercial health and fitness centres for the purposes of this study are centres having the following characteristics: corporate/franchised; membership open to public; membership-fee based; and profit oriented.

RESEARCH DESIGN AND METHODOLOGY

The sample

Students enrolled in Sport Management programmmes at selected universities in Gauteng who were serving their experiential training placement were used as fieldworkers for the data collection. The nature of the study necessitated the use of non-probability convenience sampling (Parasuraman *et al.,* 1991; Meidan, 1996; Espinoza, 1999; Churchill, 2001). Convenience sampling allows a large number of respondents to be interviewed in a relatively short period of time, and for this reason is commonly used in construct and scale measurement development. Since sample size formulas cannot be appropriately used on non-probability samples, the determination of the sample size was based on past or similar studies (Zikmund, 2000). The sample size of 250 was deemed to be adequate to develop and refine initial instruments (Taylor *et al*., 1993; Kim & Kim, 1995). Care was taken to randomise the data collection procedure by conducting interviews at different days and times of the week. To ensure randomisation every third person was interviewed. Further representivity was achieved by ensuring that respondents visited the facility at least two times a week. Geographical representivity was established by ensuring that respondents from different health and fitness clubs in the South, Central and Northern Gauteng were included in the sample. Data was collected at the facility in an intercept type situation. The rationale for such a data collection strategy was based on the theory that respondents will be more attentive to the task of

completing the questionnaire and will provide meaningful responses when contextualised in the environment they are evaluating (Dabholkar *et al*., 1996).

Development of the instrument

Health and Fitness centres are essentially engaged in the provision of services. These services performed are like any other services provided by other industries. Thus research undertaken on service quality in general can be used as starting blocks in compiling an instrument to measure health and fitness centre service quality (Kim & Kim, 1995).

In developing the measurement instrument the researchers have followed the route of identifying critical dimensions of service quality (Parasuraman *et al*., 1985; Kim & Kim, 1995; Theodorakis *et al*., 2001). In addition two focus group interviews were conducted by the researchers at the university in order to obtain a better understanding of how participants perceive service quality within a health and fitness centre context. Such conceptualisation of service quality scale development is also supported by literature (Johnson *et al*., 1995, Dabholkar *et al*., 1996; Vasquez *et al*., 2001).

Insights into the services that consumers desire from health and fitness centres were initially obtained through a review of literature on service quality. Service quality was measured by using the contributions of the SAFS (Chelladurai *et al*., 1987), SERVQUAL (Parasuraman *et al*., 1988), RECQUAL (Crompton *et al*., 1991), QUESC (Kim & Kim, 1995) and the CERM-CSQ (Howat *et al*., 1996) instruments.

The questionnaire consisted of a list of items used by consumers to assess the quality of services at health and fitness centres. The survey method, using a structured questionnaire was used. A panel of three people were invited to screen the instrument for its content validity. These individuals were selected, based in their academic and administrative expertise in the sport and fitness industry. Four items were removed from the scale as it was judged to be inappropriate to the organisational setting. Eight items were re-worded to reflect more specific attributes of service quality.

The questionnaire was pre-tested test using a sample of 15 respondents, comprising people who patronised health and fitness centres. Pre-testing was done by personal interviews by the researchers in order to observe respondents' reaction and attitudes (Malhotra, 2004). Debriefing occurred after the questionnaire was completed. Again, changes were made to questions with regard to re-phrasing, sequence, and layout (Chisnall, 2005). The final questionnaire contained 59 evaluative statements on health and fitness service quality.

In addition the questionnaire included statements on overall service quality and loyalty. These evaluative statements were used to establish the convergent validity of the scale. Both male and female respondents over 18 years of age were included in the sample. Two hundred and fifty one (251) questionnaires were completed. The sample consisted of 60.4% male (n=148) and 39.6% female (n=97) respondents. Majority of the respondents were single (69.7%) whilst married persons constituted 24.9% of the sample. A broad range of age groups were represented from individuals in the early 20’s to the late 50’s.

ANALYSIS OF RESULTS

The first step in analysing the internal structures of the service quality construct was to perform exploratory factor analysis based on the 59 evaluative statements. Prior to factor analysis the appropriateness of factorability on the data set was established. The approximated χ^2 value of Bartlett's Test of Sphericity was 7104.50 (df=1711) at an observed significance level of 0.0000 thus rejecting the hypotheses that the population correlation matrix is an identity matrix, *i.e.* with zero correlations. In addition, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (MSA) was 0.902, which is considered "marvellous" by Kaiser (1974: 35) for factor analysis.

The principal component analysis (unrotated) was first applied, extracting factors with eigenvalue greater than one (Malhotra, 2004). This procedure produced factors that were difficult to interpret. Varimax rotation (using Kaiser normalisation) was then applied in order to obtain a clearer factor structure. Varimax rotation was used in order to minimise the number of variables with high loadings on a factor, thereby enhancing the interpretability of the extracted factorial model (Malhotra & Birks, 2003). Varimax rotation was also used in similar studies (Bahia & Nantel, 2000; Avkiran, 1994; Papadidmitriou & Karteroliotis, 2000). Eleven factors were initially extracted with reliability values ranging from 0.919 to 0.538 with four factors lower than the benchmark level of 0.70 as recommended by Nunnally (1978: 230). Similar to the studies conducted by Parasuraman *et al*. (1988), Kim and Kim (1995) and Papadimitriou and Karteroliotis (2000), the first factorial structure extracted contained cross-loadings of variables. Moreover, this structure was difficult to interpret, as only four of the eleven extracted factors shared a common core and independent meaning.

Item reduction and scale purification was then undertaken whereby items with low factor loadings, communalities and low-item-to-total correlations were investigated (Chandon *et al*., 1997; Aldlaigan & Buttle, 2002). The iterative process was re-run several times until a clear factor structure emerged. The determination of the number of factors to be extracted were homogeneously and conceptually accomplished by applying a combination of statistical approaches, namely, % of variance explained, the eigenvalue criterion, the scree plot, and taking into account the interpretability of factors (Nunnally, 1978; Malhotra, 2004). This resulted in an eight factor solution consisting of thirty nine variables. The final factor structure and the respective coefficient alphas (Cronbach α) are reflected in Table 2.

Factors were not constrained (*i.e*. not determined *a priori)* since this was an exploratory study and more specifically, the study was designed to measure service quality within a South African context. Relative importance of service quality dimensions and its ability to explain satisfaction may vary in different countries due to cultural variations. Such cultural differences may include consumers' perceptions of issues of lifestyle, wellness, economic, and socio-cultural factors (Malhotra *et al*., 1994).

DISCUSSION OF RESULTS

The measure of central tendency, dispersion and normality is reflected in Table 1. The lowest means turned out to be 1.962 for safety and support, and 1.963 for the facility attraction dimension, indicating that respondents agree that these dimensions are important in health and fitness service quality evaluation. The highest mean recorded was 2.838 for the programming

and medical dimension indicating that respondents were in moderate agreement to its contribution to service quality. The largest standard deviation was 0.999 and the smallest being 0.696. The standard deviations across all dimensions were <1 inferring that the sample was relatively homogeneous. All dimensions reflect positively skewed distributions, indicating that the distribution is relatively symmetrical. The kurtosis values obtained from all the variables indicate that all the dimensions differed from zero, indicating that the distributions were either flat or more peaked than normal.

TABLE 1. **DESCRIPTIVE STATISTICS FOR AN EIGHT FACTOR SOLUTION**

Subscale	Mean	SD	Skewness	Kurtosis	No. of items
Personnel	2.487	0.843	0.881	1.144	12
Programming and medical	2.838	0.906	0.906	0.760	7
Convenience and information dissemination	2.630	0.999	0.999	0.592	4
Functionality and layout	2.131	0.801	0.801	1.070	3
Ambience and accessibility	2.111	0.784	0.784	0.865	3
Facility attraction	1.963	0.777	0.777	0.992	5
Safety and support	1.962	0.696	0.696	1.192	3
Membership	2.162	0.947	0.947	1.255	2

The internal consistency reliability of the eight factor solution was assessed by computing the alpha coefficients (Cronbach α). These results are reported in table 2. The alpha coefficients obtained on factors one to eight were 0.919; 0.825; 0.730; 0.729; 0.670; 0.717; 0.609 and 0.673 respectively. The reliability for factors one, two, three, four, and six were considered adequate *ie.* 0.70 and above (Nunnally, 1978) whereas for factors five, seven and eight indicates marginal internal consistency. These values of internal consistency are deemed acceptable as McKay and Crompton (1991); Chandon *et al.* (1997); Papadimitriou and Karteroliotis (2000) also reported similar values in their health and recreational studies. In addition, the very high coefficient alpha values of the total service quality scale construct (α=0.941) supported the inclusion of these three dimensions.

Factor 1, labelled personnel consists of twelve variables and accounted for 32.4% of the variance. This dimension incorporates the responsiveness and assurance dimensions of the SERVQUAL scale and the employee attitude dimension of the QUESC scale. This factor demonstrated the important role that personnel play in delivering quality of service. The second factor, labelled programming and medical consist of seven variables and explained 7.3% of the variance. This dimension conceptually emphasises the significance of program availability and medical support in sport and fitness centres. It is evident that this factor combines the tangibles aspects of the SERVQUAL, the facility attraction and operation aspects of the QUESC, and the programme offered dimensions of the FITSSQ scales. The fact that this factor of the subscale explained the second highest % of variance indicates that patrons of health and fitness centres do form judgements of service quality based on programs and facility related attributes. The third factor extracted from the study, labelled convenience and information dissemination consists of four variables, accounted for 5.5% of the variance. This dimension relates to the information and convenience aspects of service quality. Issues such as space availability and information dissemination are essential to enhance service

delivery. Factor four, labelled functionality and layout consists of three items and accounted for 4.2% of the variance. This factor captures in essence some of the tangible variables of the SERVQUAL model. Bitner (1993) reaffirms that the centre atmosphere and appearance are important in global evaluations of a service. Further insights from environmental psychology (Donovan *et al*., 1994) support the notion that an environment influences the attitude as well as the behaviour of consumers. It is apparent that due to the intangible nature of services and that service quality is difficult to evaluate, health and fitness patrons rely on this tangible evidence that surrounds the service to assist them in their evaluation of service quality (Hoffman & Bateson, 2002). Factor five, labelled ambience and accessibility consists of three items and accounted for 3.8% of the variance. This factor combines some of the variables of the tangible dimension of the SERVQUAL scale and the ambience dimension of the QUESC scale. Factor six, labelled facility attraction consists of five items and accounted for 3.3% of the variance. Facilities such as mirrors in training areas, proper aerobic studios and dressing facilities are essential to patrons in service quality evaluation. Factor seven, labelled safety and support consists of three items and accounted for 3.1% of the variance. Finally, factor eight labelled membership also consists of two items and accounted for 2.6% of the variance. In sum all eight factors accounted for 62.3% of the total variance explained, which according (Malhotra, 2004) is satisfactory. Whilst one would expect that the prime reason for a health and fitness centre's existence is to provide variety in terms of facilities and programs, it was not the case in this empirical study. These findings resonates similar views of other studies in this field (Papadimitriou & Karteroliotis, 2000: 162). These findings suggest that the human element (behaviour of facility personnel) is more important in service quality evaluation. This is also in line with some earlier studies that have highlighted the importance of "soft issues" such as trust, politeness, assistance and personal attention in improving service quality (Powell, 1995; Sureshchander *et al*., 2002; Dhurup, 2003).

TABLE 2. **ROTATED FACTOR LOADING MATRIX**

ITEM	F1	F2	F3	F4	F5	F6	F7	F8
Staff provides consistent services	0.746							
Staff shows interest in progress	0.727							
Staff are adequately trained	0.717							
Staff responds to your request	0.678							
Adequate supervision	0.665							
Instructors are adequately qualified	0.649							
Staff assistance	0.611							
Staff assistance in use of facilities	0.593							
Staff give you personal attention	0.542							
Staff conduct is ethical	0.521							
Staff instils a sense of confidence	0.511							
Remedy complaints immediately	0.484							
Adequate medical services		0.771						
Variety of fitness and health programs		0.714						
First aid available		0.678						
Pre-participation assessment		0.659						
Goal-differentiated programs		0.620						
Facilities for disabled persons		0.523						
Emergency evacuation		0.496						
Space for relaxation			0.645					
Updated notice boards			0.580					

ITEM	F1	F2	F3	F4	F5	F6	F7	F8
Space for warm-up and cool-down activities			0.534					
Suggestion box			0.517					
Modern fixtures and equipment				0.778				
Adequate signage				0.718				
Centre layout				0.642				
Interaction with members					0.758			
Pleasant ambience					0.542			
Conveniently located					0.537			
Sufficient mirrors						0.811		
Wooden sprung floors for aerobic studios						0.611		
Dressing facilities						0.479		
Access to water						0.475		
Shower facilities are hygienic						0.401		
Safe in using facilities							0.711	
Staff politeness							0.609	
Equipment can be used with ease							0.410	
Membership easily purchased								0.745
Membership good value for money								0.627
Eigenvalue	12.64	2.89	2.12	1.64	1.50	1.28	1.22	1.02
% of variance explained	32.42	7.30	5.45	4.21	3.87	3.28	3.13	2.62
Cumulative %	32.42	39.72	45.18	49.39	53.26	56.55	59.68	62.31
Reliability (Cronbach alpha)	0.919	0.825	0.730	0.729	0.670	0.717	0.609	0.673

Extraction method: Principal Component Analysis Rotation method: Varimax with Kaiser Normalisation.
Variables with loading 0.40 excluded from analysis

To ensure that the health and fitness service quality scale satisfies content validity, a mixed methodology research process was followed. Initially a qualitative data collection process, namely, focus group interviews was undertaken to ascertain consumer perceptions of health and fitness service quality. Content validity was also ascertained by pre-testing the questionnaire and a review of the questionnaire by academics and practitioners in the field. The instrument was further purified during the various stages in the iterative process.

The scale's convergent validity was assessed for statistical significance by using Kendall's tau b correlation coefficient. The eight dimensions of health and fitness service quality were correlated with C1 of the questionnaire (i.e." Overall, I am satisfied with the quality of service provided by this centre"). Kendall's tau b correlation coefficient supports the notion behind convergent validity that the observed results are not an artefact of the instrument i.e. that there is high correlation with the results from the instrument designed to measure the same construct (Avkiran, 1994). Thus the following hypothesis was formulated:

H_1 There is no association between health and fitness service (as measured by the eight dimensions of service quality) and overall service quality (as measured by C1 of the questionnaire).

Table 3 reflects that the marked correlations are all significant at $p<0.01$. Hypothesis H_1 is therefore rejected. This implies that the eight dimensions of service quality do in fact converge with the measure of overall service quality. Furthermore, the reliability of a scale as measured

by coefficient alpha (0.941) reflects the degree of cohesiveness among scale items and is an indirect indicator of convergent validity.

TABLE 3. **CORRELATION: DIMENSIONS OF SERVICE QUALITY WITH OVERALL SATISFACTION**

Dimensions	n	Significance (2 tailed)	Correlation coefficient/ Overall satisfaction
Personnel	235	0.000	0.505 (**)
Programming and medical	242	0.000	0.343 (**)
Convenience and information dissemination	237	0.000	0.363 (**)
Functionality and layout	244	0.000	0.245 (**)
Ambience and accessibility	243	0.000	0.352 (**)
Facility attraction	237	0.000	0.478 (**)
Safety and support	245	0.000	0.444 (**)
Membership	243	0.000	0.334 (**)

** Correlation is significant at the 0.01 level (2 - tailed)

CONCLUSION, RECOMMENDATIONS AND IMPLICATIONS FOR FUTURE RESEARCH

The study adopted a conceptual framework for identifying dimensions of health and fitness service quality. The findings of this preliminary factorial analysis do provide support that there are potentially eight dimensions of health and fitness service quality: namely, personnel, programming and medical, convenience and information dissemination, functionality and layout, ambience and accessibility, facility attraction, safety and support, and membership. These findings concur with results from earlier studies that service quality is indeed a multidimensional construct (Papadimitriou & Karteroliotis, 2000) which requires multiple item measures. Whereas the Parasuraman *et al*. (1988) SERVQUAL model is in part encapsulated in this scale, the number and types of dimensions lends support to Carman (1990), Buttle (1996) and Williams (1998) comments that the service quality construct much depends on the service industry under investigation, its service settings and its related service attributes. Hence it was not surprising that substantial differences emerged as only a few of the items of the SERVQUAL scale were found to be efficacious within the context of health and fitness centre service quality. The results also indicate that the SERVQUAL authors were optimistic in their claim that "the instrument has been designed to be applicable across a broad spectrum of services" which " can be adapted or supplemented to fit the characteristics of the specific needs of a particular organisation (Parasuraman *et el*., 1988: 31). Notwithstanding such criticism, the SERVQUAL model does provide valuable conceptual and operational insights in the measurement of service quality.

Within the eight dimensions, the personnel dimension was found by patrons as most pertinent. Issues such as consistency in service, interest in progress of patrons, proper training and supervision, qualified instructors, staff assistance, ethical conduct, confidence and complaints

handling are high on the agenda of patrons in service quality perceptions of a health and fitness centre.

The dimensions of health and fitness service quality were operationalised by a series of statements that provide managers with an evaluation tool which can translate the abstract construct of service quality into meaningful actions. In practical terms, the eight factor structure can provide an invaluable assessment tool for service quality in health and fitness centres in South Africa. The scale might serve as a diagnostic methodology to uncover broad areas of health and fitness service quality, shortfalls and strengths. The instrument can also be used to measure both overall service quality achieved by health and fitness centres and a dimension-based estimate of service quality (Crompton *et al*., 1991). The instrument may also be useful for gathering data that can be utilised to benchmark current levels of service quality among health and fitness centres belonging to the same chain or with competitors.

This study, undertaken within the health and fitness setting, adds to the growing literature, which calls for the re-examination of how to measure and manage service quality. The results of this study cannot be accepted as being completely relevant and applicable to all health and fitness centres because of the limited sample size and the sampling procedure. There is a possibility that perceptions may vary from customers among other developed countries (Dhurup *et al*., 2005). However, there may be differences in the manner in which profit and non-profited oriented health and fitness centres operate in South Africa which may necessitate differences in the operationalisation of the service quality construct. Further research initiatives are encouraged to test the reliability and stability of the health and fitness service quality scale in commercial health and fitness centres.

This study has certain practical implications for practitioners in the Health and Fitness industry. Firstly, the human resources engaged in producing their experiences as services should be specifically trained with regard to identifying the components of customer service quality. Secondly, they should also be trained in techniques to enhance customer satisfaction. Lastly, marketing managers in this sector of the industry should be trained in utilising current but locally relevant and reliable measurement instruments in order to monitor customer satisfaction. Future researchers may also build on the knowledge of service attributes developed in this study by developing measures of patron satisfaction using similar methods. Advancing the measurement of service quality and satisfaction in sport and recreational setting will lead to further research investigating the relationships among other constructs such as facility loyalty. Although this study included a number of ambience (atmospheric) variables, the authors did not manipulate any of these variables and explore the effect on consumer's perception of the environment.

Finally, a comprehensive framework has been proposed reflecting both its practical application and statistical reliability which can be used to measure and understand customer perceptions of service quality in a health and fitness context. It is hoped that the findings of the study (which might be referred to as (HAFSQ) will help to advance an archetype of health and fitness service quality in order to comprehend better the concept of service quality and its constituents.

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