

Review

# Determinants of service quality influencing customer satisfaction in fitness centers: A systematic review

Helena Ferreira-Barbosa <sup>1,2</sup>, João Barbosa <sup>1,2</sup>, Bebiana Sabino <sup>1,2</sup>, Vânia Loureiro

Instituto Politécnico de Beja. Departamento de Artes, Humanidades e Desporto. Beja, Portugal.

\* Correspondence: (HFB) [helena.barbosa@ipbeja.pt](mailto:helena.barbosa@ipbeja.pt)  0000-0001-9235-3417

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**Abstract:** The aim of the present systematic review was to investigate the determinants of fitness center service quality that most influence customer satisfaction. Studies were identified from searches in PubMed, Scopus, Web of Science and EBSCO databases from 2017 through 2022. The search process was carried out by four independent researchers. Titles and abstracts were reviewed to determine whether the studies met the inclusion criteria. The quality of the reporting of the measures was assessed using a tailored list. The electronic search strategy produced 378 studies. A total of 17 articles met the inclusion criteria. Results of the review support the importance of service quality to improve customer satisfaction, leading to customers future intentions with the brand, increasing loyalty and customer retention. Therefore, positive perceptions of service quality influence customer satisfaction, in turn customer loyalty and retention, and are indispensable for the sustainability of these companies. Through the studies included in this systematic review it was possible to identify nine dimensions of service quality as predictors of customer satisfaction: facility quality, instructors and reception staff quality, price, supporting services, service recovery, service assurance, online marketing, and customer relations. This article provides useful and global information on the most current service quality factors. Given the fitness market's competitiveness, understanding the factors that influence service quality allows managers to better choose their strategies for increasing customer satisfaction.

**Keywords:** service quality perception; health-fitness clubs; service loyalty; satisfaction; PRISMA; customer retention.

## 1. Introduction

Currently, in the context of fitness centers, there is a clear problem for managers

in attracting, satisfying, and retaining members (Ferreira-Barbosa *et al.*, 2021). Scientific evidence shows that the opinion of customers regarding the quality of services is fundamental to satisfy them (Eskiler &



Altunışık, 2021; Ferreira Barbosa *et al.*, 2019; Pradeep *et al.*, 2020; Rahmatulloh & Melinda, 2021; Zeithmal *et al.*, 2011).

The concept of service quality is defined by Berry, Parasuraman and Zeithaml (1988) as a judgment or an attitude toward the superiority of a service. Chang and Chelladurai (2003) divide the quality analysis into three stages, each having nine components. Management commitment to service quality, service development and essential services, are all considered in the input stage. The elements of personal interactions with staff, interactions with employees, physical environment, contact with other customers, and service failures and recovery are all included in the throughput stage. Finally, there is only one parameter at the output stage: perceived service quality. According to Gronroos (1984), perceived service quality is defined as the result of an evaluation process in which customers compare their expectations with the service they received. The service quality is the most cited factor as an important influencer of customer satisfaction (Eskiler & Altunışık, 2021; Ferreira Barbosa *et al.*, 2019; Pradeep *et al.*, 2020; Rahmatulloh & Melinda, 2021; Zeithmal *et al.*, 2011).

Customer satisfaction refers to customers' overall experiences with the fitness center and its services (Li & Petrick, 2010), and it is defined as the amount to which a product's performance meets or exceeds customer expectations (Kotler & Armstrong, 2012). A pleasurable fulfillment response to a good, service, benefit, or incentive is defined as customer satisfaction (Oliver, 1997). Customers assess a product or service based on their needs and expectations, he/she is satisfied when he perceives his needs, real or perceived, met or exceeded (Gerson, 1999). Customer's subjective judgement regarding satisfaction with services is one of the best criteria for

evaluating them, customer satisfaction being related to service quality, as aforementioned. Furthermore, customer satisfaction increases the likelihood of retaining the customer (Bodet, 2006; Pradeep *et al.*, 2020; Rahmatulloh & Melinda, 2021; Rust *et al.*, 1995).

Over time, many studies have examined the importance of various determinants of service quality in achieving satisfaction. Ferreira Barbosa *et al.* (2019), found that high overall member satisfaction is positively associated with equipment quality. Numerous research (Afthinos *et al.*, 2005; Howat *et al.*, 2008; Loureiro *et al.*, 2019) has showed that customer perceptions of the quality of services are significantly influenced by employees' interpersonal interactions with them. Customers prefer friendliness, individualized attention, pleasant service, responsibility, and employee dynamism the most, according to Loureiro *et al.* (2019). Tsitskari *et al.* (2014) go on to state that cultivating a welcoming environment at the facilities and classes ought to be a top concern, and that both the management staff and the fitness experts should make an effort in this direction. Ferreira-Barbosa *et al.* (2021) also highlight the importance of technology, as part of the customer's perceived value, directly related to perceived quality and, therefore, also to satisfaction. Therefore, regular efforts should be made to improve service quality and customer satisfaction to maintain the retention rate. The fitness center experience for each consumer should be consistently positive, meaningful, differentiated, and respected. If this happens, not only will the purchase renewal process be simpler and more appealing, but customer satisfaction will rise, encouraging recommendations.

According to the above, despite service quality is revealed as an important factor for customer satisfaction, it is necessary to

understand more clearly which attributes are most important to customers. That is, what characteristics do fitness centers possess that best lead to customer satisfaction, according to the most recent articles on the subject? A better understanding of these attributes will enable managers to make wiser decisions about the services provided, hoping to increase customer satisfaction and possibly retention. Thus, this study aimed to investigate the determinants of service quality in fitness centers that most influence customer satisfaction, through a systematic review of the most recent literature on the topic.

## 2. Materials and Methods

### 2.1. Literature selection

During March 2022, a comprehensive search of four databases (PubMed, Scopus, Web of Science, and EBSCO) was conducted, according to Angosto *et al.* (2019), Ferreira Barbosa *et al.* (2020), and Lara-Bocanegra *et al.* (2021). Articles published between 2017 and 2022 were considered for the search. The main categories of search terms were identified: 1) "service quality" (brand image, quality facilities, quality), 2) "satisfaction" (customer satisfaction, overall satisfaction), 3) "customer" (user, consumer, member) and 4) "fitness center" (fitness club, health club, gym).

Relevant publications that contained at least one term from each of the 4 categories were identified. Table 1 shows the main terms used in the search by category.

### 2.2. Research Limits

A predetermined set of inclusion criteria was used to select the documents for this systematic review. The documents selected for inclusion in the systematic review were reviewed regarding the following criteria:

(1) The study included a full-text report published in a peer-reviewed journal;

(2) The study includes a population of both genders and all age groups;

(3) The study uses cross-sectional, longitudinal, or intervention type investigations;

(4) The study includes articles written in English, Portuguese, or Spanish;

(5) No exclusion criteria regarding ethnic origin were used.

Articles were included if they met all these preceding criteria. These articles were imported into a reference database (Mendeley).

### 2.3. Data extraction and reliability

Information was collected regarding author, year, title, purpose, sample size, age, country, type of research, customer satisfaction, service quality assessment, and key findings and conclusions were extracted from all studies.

The search process was performed by four independent reviewers (HB, JB, BS, VL) who read all titles and abstracts. The reviewers read all titles and abstracts and a consensus meeting was organized to resolve differences between them. First the results of the most recent reviews were summarized, and then the potentially most relevant studies.

### 2.4. Quality assessment

Quality assessment was performed based on standardized assessment lists (Ferreira Barbosa *et al.*, 2020; Lara-Bocanegra *et al.*, 2021) as well as our selection criteria and the treatment used by the PRISMA 2020 Statement (Preferred Reporting Items for Systematic Reviews and Meta-Analysis). The PRISMA 2020 Statement was published in 2021. It consists of a 27-item checklist, which helps the author to make sure he has analyzed all aspects of the systematic review,

and a flow chart, with the total number of references found, the number of articles that were excluded in the various phases, and the number of articles that made it to the final

phase. The aim of PRISMA is to help authors improve the reporting of systematic reviews and meta-analyses (Page *et al.*, 2021).

**Table 1.** Database search strategy.

Database	Research strategies	Limits	Initial search	Final selected articles
PubMed	(((((service quality OR brand image OR quality facilities OR quality) AND (satisfaction OR customer satisfaction OR overall satisfaction) AND (customer* OR user* OR consumer* OR member*) AND (fitness club* OR fitness center* OR fitness centre* OR health club* OR gym))))))	<b>Publication Date:</b> 2017 to 2022 <b>Language:</b> Portuguese, English and Spanish <b>Full text</b>	45	1
Scopus	((((( <i>service AND quality OR brand AND image OR quality AND facilities OR quality</i> ) AND ( <i>satisfaction OR customer AND satisfaction OR overall AND satisfaction</i> ) AND ( <i>customer* OR user* OR consumer* OR member*</i> ) AND ( <i>fitness AND club* OR fitness AND center* OR fitness AND center* OR health AND club* OR gym</i> ))))))	<b>Publication Date:</b> 2017 to 2022 <b>Language:</b> Portuguese, English and Spanish <b>Document type:</b> final article	235	6
Web of Science	TS=(service quality OR brand image OR quality facilities OR quality) AND TS=(satisfaction OR customer satisfaction OR overall satisfaction) AND TS=(customer* OR user* OR consumer* OR member*) AND TS=(fitness club* OR fitness center* OR fitness center* OR health club* OR gym)	<b>Publication Date:</b> 2017 to 2022 <b>Language:</b> Portuguese, English and Spanish <b>Document type:</b> article <b>Open Access</b>	36	3
EBSCO	( service quality OR brand image OR quality facilities OR quality ) AND ( satisfaction OR customer satisfaction OR overall satisfaction ) AND ( customer* OR user* OR consumer* OR member* ) AND ( fitness club* OR fitness center* OR fitness center* OR health club* OR gym )	<b>Publication Date:</b> 2017 to 2022 <b>Language:</b> Portuguese, English and Spanish <b>Peer-reviewed scientific journals</b>	62	7

The quality evaluation list included 5 items (A-E). Each item was rated as '2' (fully referred), '1' (moderately referred) or '0' (not referred or unclear). A total quality score was calculated for all studies by counting the number of positive items in a total score from 0 to 10. Three levels of evidence were

established. Studies were defined as high quality (HQ) if the score was 8 or more, medium quality (MQ) if the total score was between 5 and 7, and low quality (LQ) if the score was 4 or less. Thus, 14 articles were found to be of high quality and three of medium quality (Table 2).

**Table 2.** List of studies with the respective quality level.

STUDIES	A	B	C	D	E	TOTAL SCORE	QUALITY LEVEL
León-Quismondo <i>et al.</i> (2020a).	2	2	1	2	2	9	HQ
Ferreira Barbosa <i>et al.</i> (2019).	2	2	2	2	2	10	HQ
García-Fernández <i>et al.</i> (2017).	2	2	2	2	2	10	HQ
Miranda <i>et al.</i> (2021).	2	0	2	2	2	8	HQ
Xu <i>et al.</i> (2021).	2	2	2	2	2	10	HQ
Ndayisenga and Tomoliyus (2019).	2	0	2	2	2	8	HQ
Ortega Martínez <i>et al.</i> (2021).	2	2	1	2	2	9	HQ
Foroughi <i>et al.</i> (2019).	2	2	2	2	2	10	HQ
Dias <i>et al.</i> (2019).	2	2	2	2	2	10	HQ
Freitas and Lacerda (2019).	2	0	1	2	2	7	MQ
Calesco and Both (2020)	2	0	1	2	2	7	MQ
Álvarez-García <i>et al.</i> (2019).	2	0	2	2	2	8	HQ
Maksimović <i>et al.</i> (2017).	2	0	1	2	2	7	MQ
León-Quismondo <i>et al.</i> (2020b).	2	2	1	2	2	9	HQ
Vieira and Ferreira (2018).	2	0	2	2	2	8	HQ
Pradeep <i>et al.</i> (2020).	2	0	2	2	2	8	HQ
García-Fernández <i>et al.</i> (2018).	2	2	2	2	2	10	HQ

**Note:** Evaluation for total score: High Quality (HQ) = 8-10; Medium Quality (MQ) = 5-7; Low Quality (LQ) = 0-4. A: Study with a full-text report published in a peer-reviewed journal, magazine, scholarly journal, or peer-reviewed journal. B: The study population covers both genders and all age groups. C: The results on fitness center customer satisfaction were clearly described. D: The results included information regarding service quality in fitness centers. E: The type of research is cross-sectional, longitudinal, or case study.

### 3. Results

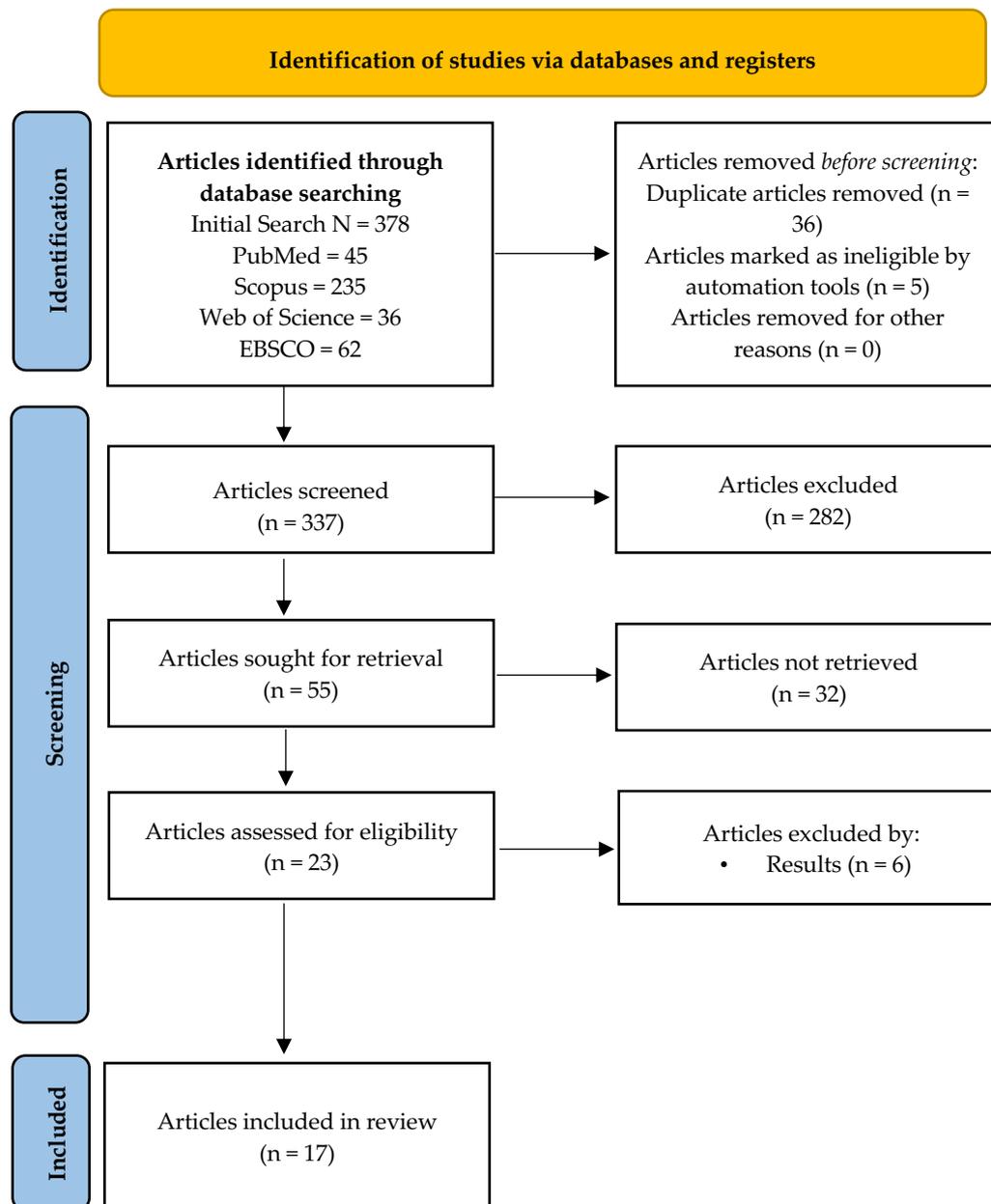
The flow of the search results through the systematic review process is shown in Figure 1. The total number of articles obtained from the search was 378 articles.

After removal of duplicates, a total of 337 papers were retrieved. A total of 283 articles were excluded at title and abstract level. Thus, 55 potential studies were reviewed for inclusion criteria. Consequently, a total of 32 articles were excluded and 23 were assessed for eligibility. From this 23, six were excluded because the results did not clearly explain the variables

under study. Finally, 17 articles were included in the systematic review (Álvarez-García *et al.*, 2019; Calesco & Both, 2020; Dias *et al.* 2019; Ferreira Barbosa *et al.*, 2019; Foroughi *et al.* 2019; Freitas & Lacerda, 2019; García-Fernández *et al.* 2017; García *et al.*, 2018; Miranda *et al.*, 2021; León-Quismondo *et al.* 2020b; León-Quismondo *et al.* 2020a; Maksimović *et al.*, 2017; Ndayisenga & Tomoliyus, 2019; Ortega Martínez *et al.* 2021; Pradeep *et al.*, 2020; Vieira & Ferreira, 2018; Xu *et al.*, 2021) all of these studies were cross-sectional. This review includes data from 8518 individuals and the sample size of the studies varied from 23 (León-Quismondo *et*

*al.*, 2020a) to 1805 (García-Fernández *et al.*, 2017) participants. The samples were from eight different countries, Portugal (Dias *et al.*, 2019; Ferreira Barbosa *et al.*, 2019; Vieira & Ferreira, 2018), Spain (Álvarez-García *et al.*, 2019; García-Fernández *et al.*, 2017; García *et al.*, 2018; León-Quismondo *et al.*, 2020b; León-Quismondo *et al.*, 2020a; Ortega Martínez *et*

*al.*, 2021), Brazil (Calesco & Both, 2020; Freitas & Lacerda, 2019; Miranda *et al.*, 2021), China (Xu *et al.*, 2021), Malaysia (Foroughi *et al.*, 2019), Abu Dhabi (Pradeep *et al.*, 2020), Serbia (Maksimović *et al.*, 2017) and Indonesia (Ndayisenga & Tomoliyus, 2019). Information about all the studies is presented in Table 3.



**Figure 1.** Flow diagram of article selection for the systematic review.

**Table 3.** Characteristics of the selected studies (n = 17).

Authors/ Year	Aim	Sample/ Country	Age/ fitness	Study design and duration	Results
León-Quismondo <i>et al.</i> (2020a).	Identify the best practices in fitness center management for increasing customer engagement and for long-term stability and sustainability of the business.	N=23 center managers; 22 to 50 years; Spain	fitness	Cross sectional	1) Kind customer service is required both to reception and instructors, in this sense, loyalty programs should be extended, increasing customer satisfaction thus customer retention. 2) The quality of clean and hygienic activity spaces and locker rooms is important to the success of fitness centers. 3) The quality and trend of group classes strongly influence the perception of the service offered, where technology is increasingly adding value to the activities. Regarding marketing, more online strategies should be applied through social media. 4) A fair monthly fee should be guaranteed considering the services offered as well as the location of the fitness center (within a maximum distance of 15 minutes).
Ferreira Barbosa, <i>et al.</i> (2019).	Analyze the influence of service quality on overall customer satisfaction in fitness centers.	N=172; 17 to 72 years; Portugal	fitness	Cross sectional	1) There are no significant differences in overall satisfaction of customers related to socio-demographic characteristics, time of membership, frequency, and hours of use of the fitness center. 2) Quality of service shows greater relevance, followed by quality of equipment and, finally, the price-quality ratio for the overall satisfaction of customers. 3) There is a positive relationship between service quality and overall satisfaction.
García-Fernández <i>et al.</i> (2017).	Examine the relationship between perceived quality, perceived value, and satisfaction with future intentions of fitness centre customers.	N=1805 centre customers; <20 to > 60 years; Spain	fitness	Cross sectional	1) The findings imply that customers' satisfaction and loyalty will be influenced if they have a positive perception of quality. 2) The results suggest that customers of fitness centers have a positive perception of the programs and employees but have a lower perception of the facilities. These results may be due to the lack of investment in the design of the space in these sports facilities, which results in a poor perception of them. 3) The findings point to a direct and positive relationship between perceived quality and perceived value, that is, when a customer perceives the service offered by an employee, the sporting activity, or the equipment to have optimal quality, they will also perceive a positive value. 4) There is a relationship between perceived quality and satisfaction, that is, a customer with a positive perception of value will be a customer more than likely to be loyal.
Miranda <i>et al.</i> (2021).	Analyze the predictive relationship of service quality and price perception on the satisfaction and	N= 385; Age mean: 41.06 ± 14.86 years; Brazil	fitness	Cross sectional	1) The results reveal the importance of providing quality service, as it is strongly associated with customer satisfaction and loyalty. 2) It was also found that a predictive effect of fitness center services on positive behavior. 3) Price perception negatively and significantly influences positive behavior. This means that the more customers perceive the price to be

	positive behavior of fitness center customers in			expensive, the less likely they are to say they intended to renew their membership or plan, recommend, or hire other services.
Xu <i>et al.</i> (2021).	Explore the dimensions of service quality in fitness clubs and examine their impact on customer satisfaction	N= 533; < 18 to > 56 years; China	Cross sectional	This study identified factors such as service recovery (the process by which fitness clubs take action to make up for losses incurred due to service mistakes in order to regain customer trust), service assurance (the ethical bottom line and code of conduct followed by clubs to minimize customer doubts and risks during business activities), facility function (the working condition of the main facilities and equipment that customers use during workouts), program operation (the variety of programs offered by fitness clubs), instructor quality (professional skills, the ability to build fitness confidence and maintain interest, personality, and degree of seriousness are all important to customers), and staff performance (front desk and sales staff) as predictors of customer satisfaction.
Ndayisenga and Tomoliyus. (2019).	Determine the effect of service quality on service satisfaction and fitness customer behavior, to determine the effect of tariff on fitness customer behavior loyalty, to determine the effect of satisfaction on customer behavior loyalty at fitness.	N= 85; Age not mentioned; Indonesia	Cross sectional	1) There is a strong positive correlation and significant influence between service quality and customer satisfaction which results in the increase of customers. It can be said that customers will believe in the fitness center if it increases attention to facilities, including updating programs, service procedures, such as adequacy employees in helping customers during training, for example for newcomers, informing customers appropriately, providing visitor service sincerely (wholeheartedly), and to reduce the fee. In addition, employees can create close family relationships if they create empathy, paying attention to customers' complaints, wishes, trying to offer a solution. 2) Customer satisfaction on customer loyalty was not significant because of the tariff in the fitness was not moderated. 3) Behavioral loyalty is strongly negatively influenced by the discomfort fitness rates or tariff. The high price has negatively influenced customer engagement.
Ortega Martínez <i>et al.</i> (2021).	Characterize the importance that users attribute to fitness trainer, comparing it according to gender and age range.	N= 200; 18 to 74 years; Spain	Cross sectional	1) It is possible to verify that the importance attributed to the quality of the instructor is quite high. 2) Having properly trained professionals, with adequate qualifications and professional experience, shows the interest of the sports sector in having these professionals who will condition the future of fitness activities. 3) There are statistically significant differences according to the gender and age group of the users. Comparisons between groups allowed to verify that women give more importance to the musical domain, and users over 30 give more priority to the dedication shown by the instructor. This data will allow the technicians providing the services (the trainers) to design and improve their intervention considering the characteristics and preferences of the target audience, improving satisfaction and increasing loyalty.

Foroughi <i>et al.</i> (2019).	Investigate the effects of process and outcome quality on fitness customers' delight and satisfaction. Investigate the relationships between delight, satisfaction, and behavioral intention.	N= 379; < 19 to > 50 years; Malasya	Cross sectional	1) The results indicated that process quality (pertains to the peripheral elements of service quality, are elements related to interactions between the customer and the employees, the supporting services (e.g. concessions, parking)) and outcome quality (what the customer receives after consumption of a product or service) had a significant effect on customer delight (when customers are pleasantly surprised by a service and their experience leads to disconfirmation by exceeding their expectations) and satisfaction. 2) Customer delight influenced customers' satisfaction and behavioural intentions. 3) Both customer satisfaction and customer delight had a significant effect on customers' behavioural intentions.
Dias et al (2019).	Evaluate service quality and customer satisfaction as antecedents of renewal intention, determining if and how these three constructs interacted between themselves. To	N= 263; 20 to 40 years; Portugal	Cross sectional	1) The findings indicate that participants had a positive impression of the staff's relational skills (namely the employees, teachers, instructors, and other workers of the fitness centers). Fitness centers may meet their customers' expectations and increase their views of service quality by continuously improving factors such as personnel involvement and training, as well as individualization of treatment. 2) The least favorable dimension was customer impressions of customer contact with other customers. This dimension is concerned with the relationship between customers when utilizing the services, and it can be modified positively or adversely depending on other customers' words and/or behavior. 3) Improving service quality is an important technique for increasing customer satisfaction and forming a long-term relationship. Customers who are satisfied, particularly with the services given, are more likely to renew their membership and have more positive behavioral intentions toward remaining with the organization.
Freitas and Lacerda (2019).	Identify the factors and the attributes which are most important concerning the perceptions of customers of fitness centers.	N= 368; Predominant age range: 25 to 34 years; Brazil	Cross sectional	1) Workout facilities and price (fitness equipment and value of service) are the most essential variables, followed by staff (instructors). 2) In addition to being in great functioning order, the fitness equipment must be diversified and in adequate quantity. 3) Important attributes include exercise equipment, instructors' attitudes, politeness, and performance, as well as the quality of the information they provide, the fitness center's overall cleanliness, and the value of service. 4) The fitness center's general cleanliness and service value are also crucial.
Calesco and Both (2020).	Evaluate the quality of services provided by fitness centers considering sociodemographic variable.	N= 290; Age mean: 33.16 ± 11.34 years. Brazil	Cross sectional	1) The marketing services provided by fitness centers are of lower quality. 2) Customers with a bachelor's degree, spend more time exercising and at the same fitness center, and a greater number of fitness centers visited have a more critical opinion of the quality of fitness center services.

Álvarez-García <i>et al.</i> (2019).	Analyze the influence of the dimensions that enable the rating of service quality perceived by users of sport and health centers in the satisfaction they experience from the service received.	N= 206; 18 to 40 years; Spain	Cross sectional	1) The findings revealed a positive link between perceived service quality and overall satisfaction, with facilities and material being the most relevant characteristics, followed by communication and activity. HR, monitor, and personnel were the least influential variables. 3) A facility that wants to improve the happiness of its users with its facilities must meet their criteria and expectations in terms of cleanliness, safety, temperature, and sports equipment. It should also pay close attention to the communication channels in place inside its organization.
Maksimović <i>et al.</i> (2017).	Determine the differences between expected and perceived service quality, as well as the relationship between dimensions of service quality, customer satisfaction and purchase intentions of users in fitness centres.	N= 323; Age mean: 28.52 ± 8.41 years; Serbia	Cross sectional	1) There was a substantial positive association between service quality and satisfaction. Satisfaction is influenced by aspects like as cleanliness and service, and it has an impact on users' purchase intentions. 2) When it comes to cleanliness, customers have the greatest expectations in terms of hygiene. In terms of personnel, the findings suggest that fitness centers should carefully pick their employees. 3) According to the findings of this study, respondents expect the most from exercise equipment and the size of the fitness center in terms of factor equipment and workout conditions.
León-Quismondo <i>et al.</i> (2020b).	Identify the best practices in fitness center management for increasing customer engagement and for long-term stability and sustainability of the business.	N= 414; 18 to 77 years; Spain	Cross sectional	1) Female customers are associated with a higher relevance of diversity and quantity of activities, as well as a better impression of that attribute's performance. The same can be said for the quality of fitness services, which is linked to higher expectations among female customers as well as a better perception. These findings demonstrate the importance of the core service, particularly for women. 2) Female gender is associated with higher degrees of importance of personal training services and nice treatment from employees. In this regard, female customers have a higher level of satisfaction with the realization of outcomes owing to instructors. 3) Women appear to have greater values for the swimming pool and its temperature. 4) When it comes to marketing efforts, women associate receiving presents with joining the center. 5) Female customers are statistically substantially associated with the importance of medical or physiotherapy services. 6) The performance of activity areas in terms of hygiene and cleanliness has a substantial positive connection with age, implying that older people are less happy with those facilities' hygiene and cleanliness. The performance of roomy and secure lockers is likewise inversely connected with age.
Vieira and Ferreira (2018).	To know the current strategic framework of	N= 151; Age mean: 36.3 ±	Cross sectional	1) Competencies of staff, facilities, core services, and supplemental services are significant variables in fitness center strategy. 2) Regardless of the price they charge or the variety of

	fitness clubs, advocated by the blue ocean strategy, from the quality dimensions.	8.2 years; Portugal		services they offer, most fitness facilities place a high value on all critical factors. 3) Fitness clubs lack a defined strategy and do not adjust service quality to the selling price. 4) Despite the low price, managers continue to place a high value on the skills, facilities, and core services of their staff.
Pradeep <i>et al.</i> (2020).	Analyze factors in customers' perception of service quality and its relation to customer satisfaction and retention.	N= 186 ; < 22 to > 55 years; Abu Dhabi	Cross sectional	1) The attainment of wellbeing, followed by wellness, is generally the most motivating factor for visiting fitness centers. 2) When evaluating service quality, respondents emphasized pricing, quality, hygiene, and safety. 3) Customer satisfaction is a result of service quality, and these two factors are also major drivers of customer retention. 4) According to this study, customer retention will be harmed unless the marketing mix is improved, with an emphasis on both tangible and intangible items. A company can only be successful if it consistently meets the needs of its customers and develops its customer base by maintaining existing customers and recruiting potential new customers.
García <i>et al.</i> (2018).	Understand the relationship among perceived quality and service convenience on perceived value, satisfaction, and customer loyalty in low-cost fitness centers.	N= 763; < 20 to > 40 years; Spain	Cross sectional	1) Perceived quality, service convenience, perceived value, and satisfaction are predictors of loyalty. 2) There is a direct and positive relationship between perceived quality and perceived value in low-cost fitness centre customers. 3) The time spent getting to the facility, effort, wait time, and product orientation to the market are all factors that influence service convenience. All these factors have demonstrated a direct relationship with perceived value of service. 4) There is a relationship between perceived value and the satisfaction. 5) High levels of quality and low perception of time and effort in attending a fitness center results in high value and a high satisfaction.

#### 4. Discussion

This systematic review aimed to investigate the determinants of fitness center service quality that most influence customer satisfaction. All the studies incorporated in this revision highlighted the importance of service quality in order to improve customer satisfaction (Álvarez-García *et al.*, 2019; Dias *et al.*, 2019; Ferreira Barbosa *et al.*, 2019; Foroughi *et al.*, 2019; Freitas & Lacerda, 2019; García-Fernández *et al.*, 2017; García *et al.*, 2018; Miranda *et al.*, 2021; León-Quismondo *et al.*, 2020a; León-Quismondo *et al.*, 2020b; Maksimović *et al.*, 2017; Ndayisenga & Tomoliyus, 2019; Ortega Martínez *et al.*, 2021; Pradeep *et al.*, 2020; Xu *et al.*, 2021), leading to customers future intentions with the brand (Dias *et al.*, 2019; Foroughi *et al.*, 2019), increasing loyalty (García-Fernández *et al.*, 2017; García *et al.*, 2018; Miranda *et al.*, 2021; Ortega Martínez *et al.*, 2021) and also customer retention (Ferreira Barbosa *et al.*, 2019; León-Quismondo *et al.*, 2020a; Pradeep *et al.*, 2020). Therefore, positive perceptions of service quality influence customer satisfaction, in turn customer loyalty and retention, and are indispensable for the sustainability of these companies. Through the studies included in this systematic review it was possible to identify nine dimensions of service quality as predictors of customer satisfaction, in order from the most cited to the least cited: facility quality, instructors and reception staff quality, price, supporting services, service recovery, service assurance, online marketing and customer relations. In addition, sociodemographic variables and customer characteristics were also analyzed in some studies.

Facility quality is mentioned by eleven investigations. The studies by Álvarez-García *et al.*, (2019), Freitas and Lacerda (2019), León-Quismondo *et al.* (2020a), León-

Quismondo *et al.* (2020b), Maksimović *et al.* (2017) and Pradeep *et al.* (2020), indicate that the quality of the facilities in terms of cleanliness and hygiene are important to achieve satisfaction. Álvarez-García *et al.* (2019) also highlights the temperature of the spaces as an important factor. On the other hand, Pradeep *et al.* (2020), highlights security and León-Quismondo *et al.*, (2020a) identifies security regarding lockers. Vieira and Ferreira (2018) indicate that facilities are significant variables in the strategy of fitness centers. When the customer perceives the service offered by the facilities to have an optimal quality, they will perceive positive value (García-Fernández *et al.*, 2017). Also, Ferreira-Barbosa *et al.* (2019), Freitas and Lacerda (2019) and Álvarez-García *et al.*, (2019), highlight the importance of the quality of the equipment, within the quality of services, in the overall customer satisfaction. Maksimović *et al.* (2017) indicated in his study that clients expect the fitness center to be as good as possible and the facilities to be spacious. Xu *et al.* (2021) identifies the facility function (the working condition of the main facilities and equipment that customers use during workouts) as an important determinant for customer satisfaction. For Ndayisenga and Tomoliyus (2019), customers will believe in the fitness center if it increases attention to facilities, including updating programs. Also, Xu *et al.* (2021), identifies the variety of programs offered by fitness clubs (program operation) as predictors of customer satisfaction. In the study of Álvarez-García *et al.* (2019), the staff and instructor also impacted in satisfaction, but less when compared to the facilities, equipment, communication, and activities that the costumers experience.

Ten studies mention the dimension of instructors and reception staff. Kindness and politeness of customer service revealed

to be fundamental for the success of fitness centers, at the level of instructors but also the reception staff (Freitas & Lacerda, 2019; León-Quismondo *et al.*, 2020a), increasing customer satisfaction leading to customer retention. The study by García-Fernández *et al.* (2017), also suggests that when the customer perceives the service offered by the employees to have an optimal quality, they will perceive positive value. Considering instructors and reception staff, the results of Xu *et al.* (2021) are in line with the previous ones, revealing that instructor quality (professional skills, the ability to build fitness confidence and maintain interest, personality, and degree of seriousness are all important to customers), and staff performance (front desk and sales staff) are predictors of customer satisfaction. Ndayisenga and Tomoliyus (2019), indicates that an adequacy employee in helping customers during training, for example for newcomers, informing customers appropriately, providing visitor service sincerely, will improve customer satisfaction. In addition, for the same authors, employees can create close family relationships if they create empathy, paying attention to customers' complaints, wishes, trying to offer a solution. Maksimović *et al.* (2017), indicates that fitness centers should choose employees carefully to improve service quality. Ortega Martínez *et al.* (2021) study reveals that customers attach a lot of importance to the quality of the instructor, in this sense, this study indicates that having properly trained professionals with appropriate qualifications and professional experience will condition customers' future towards the company (Ortega Martínez *et al.*, 2021). Vieira and Ferreira (2018) highlighted the importance of staff skills. Foroughi *et al.* (2019) also found that the interactions between the customer and the employees have a significant effect on

customer delight (when customers are pleasantly surprised by a service and their experience leads to disconfirmation by exceeding their expectations) and satisfaction. Both customer satisfaction and customer delight had a significant effect on customers' behavioral intentions. Dias *et al.* (2019) study found that participants had a positive impression of the staff's relational skills (employees, instructors, and other workers of the fitness centers). In this sense, fitness centers may meet their customers' expectations and increase their views of service quality by continuously improving factors such as personnel kindness, involvement, and training, as well as individualization of treatment.

Seven studies indicate that the price variable is also important for customers. The study by Ferreira-Barbosa *et al.* (2019), found that the price-quality relationship influences overall customer satisfaction. Miranda *et al.* (2021) concluded that the more expensive the price the less likely the customer is to renew their monthly fee. In the same vein, Freitas and Lacerda (2019) and Pradeep *et al.* (2020) found that price was a determinant of satisfaction. The study by León-Quismondo *et al.* (2020a) reveals that a fair monthly fee should be guaranteed considering the services offered, regarding the sustainability of the company. A high price will negatively influence behavior loyalty (Ndayisenga & Tomoliyus, 2019). Vieira and Ferreira (2018) found in his study that, regardless to the price, most fitness centers place a high value on all critical factors. Fitness centers revealed to lack a defined strategy and do not adjust service quality to the selling price. Thus, value for money becomes a rigorous management tool that helps sports managers decide how to allocate resources to improve customer satisfaction and loyalty.

There are three studies that refer to support services. Foroughi *et al.* (2019) study indicates that support services (e.g., concession, parking) have a significant effect on customer delight and satisfaction. In the same vein, León-Quismondo *et al.* (2020a) highlights in his study the importance of fitness center location (within a maximum distance of 15 minutes). García *et al.* (2018) also identified the time to get to the facility as a factor indirectly related to satisfaction. This way, high levels of quality, low perceived time, and effort in attending the fitness center results in high value and high satisfaction and, in turn, loyalty (García *et al.*, 2018).

The study of Xu *et al.* (2021) identified factors such as service recovery (the process by which fitness clubs take steps to compensate for losses incurred due to service errors to regain customer trust) and service assurance (the ethical baseline and code of conduct followed by clubs to minimize customer doubts and risks during business activities). This was a primordial study addressing these two dimensions of service quality, possibly for this reason, they are only mentioned in this study in this systematic review.

Although less cited in the literature reviewed, other quality factors were identified. A study (León-Quismondo *et al.*, 2020a) further revealed that online marketing strategies are critical to the success of fitness centers. Dias *et al.* (2019) study verified the importance of customers' relationship with each other. This dimension respects the relationship between customers while using the services and can be influenced by other customers' language and/or behavior (e.g., misuse of facilities, monopolizing certain devices) of other customers. Conversely, it can be positively influenced if other customers' attitudes and behaviors are viewed favorably, or if it

provides encouragement or support (e.g., assistance in handling equipment or programming a machine).

Regarding differences based on sociodemographic variables, one study (Ferreira Barbosa *et al.*, 2019) found that overall customer satisfaction does not vary regarding sociodemographic characteristics of the customers, nor with weekly training frequency, time of registration in the fitness center, or duration of workouts. However, the study by Ortega *et al.* (2021) verified that there were differences between genders and age groups regarding some aspects of the services. Women place more importance on musical mastery, and users over the age of 30 place more priority on the dedication shown by the instructor. The León-Quismondo *et al.* (2020b) study indicated that women place more value on the attributes of the services (related to the facilities and staff). The same study indicates that in terms of hygiene and cleanliness, it has a substantial positive connection with age. Older people are less happy with those facilities' hygiene and cleanliness. The performance of roomy and secure lockers is likewise inversely connected with age. These data will allow the technicians who provide the services to design and improve their intervention considering the characteristics and preferences of the target audience, improving satisfaction, and increasing loyalty.

## 5. Conclusion

With this study, it is possible to conclude and reinforce that positive customer perceptions of service quality lead to satisfaction, and thus to future intentions with the fitness center, increasing loyalty and also customer retention, which is critical to the maintenance and growth of these businesses.

This study of the latest literature on the determinants of service quality that most lead to customer satisfaction identified three main determinants (the three most cited): facility quality, instructor and staff member quality in general, and price. Thus, it is possible to conclude that managers should pay attention to the cleanliness and hygiene of the spaces and equipment, the quality of the equipment itself, and the temperature of the rooms if they want to increase customer satisfaction. The spaces should be large enough for the customers to feel comfortable while performing the exercises. It is also possible to conclude that customers value the sense of security they experience inside the fitness center. Furthermore, fitness centers should provide programs that are as current and varied as possible.

Concerning the staff, this study demonstrated that customers value the attention given to them by the staff, emphasizing values such as politeness, professionalism, safety transmitted, and seriousness. When hiring new employees, managers should consider not only their academic credentials but also their personal characteristics.

In terms of price, quality-price ratio is another factor that significantly contributes to customer satisfaction. Fitness centers must understand how to price their services appropriately.

A deeper investigation of these three determinants is proposed as a future line of investigation to better understand their impact on customer satisfaction and retention. Also, a similar review should be conducted in other business models, such as personal training studios, box crossfit, women gyms, and fitness boutiques.

As a limitation, only studies written in English, Portuguese, and Spanish were included in this review. In addition to this limitation, there were not many studies

included in the final review, despite the fact that the search terms were carefully chosen based on the main theme of the study.

## 6. Practical and Theoretical Applications.

Given the competitiveness in this market, and the importance of loyalty and retention (because of satisfaction) for business profitability, this study presents practical implications for fitness center managers. By indicating the most frequently cited service attributes to develop customer satisfaction, these results offer to managers the possibility of improve/promote these attributes in their company. Likewise, this study also presents theoretical implications by identifying the most recently (last five years) proven determinants of service quality.

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