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# Factors that Symbolize the Service Quality in Fitness Centers: A Study under the Perspective of Systematic Review and Content Analysis

Evadio Filho

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**Findings:** The results showed that most of the studies focus on understanding the relationship between service quality and other variables related to the consumer such as: satisfaction and repurchase intentions. This tendency is recent for the fitness industry, dating back the first writings of 2010 and with the great contribution of the Spanish theorists. In addition, twenty categories outline service quality in gyms. The most referenced were intrinsic to human resources (administrative staff and instructors). This shows how relevant are employees for firms of this nature. Dimensions as environments, training programs, equipment, convenience and modalities were also noted. Only convenience does not correlate directly with the essential service of fitness centers.

**Originality/value:** The paper provides useful information to theorists in the field of strategic management of service operations. It provides a holistic and deep understanding about the concept of service quality in the fitness segment.

**Keywords:** service quality, systematic review, fitness centers, factors.

## I. INTRODUCTION

Excessive work, household chores, unbalanced eating habits added to bad practices (smoking and alcohol consumption) and urban lifestyle with little availability of time for leisure activities have made gyms one of the main options for those who wish to practice physical activities (Pereira Filho *et al.*, 2013). Besides that, the global community spends a significant portion of their income on health care and this leads, for example, to many health plans to offer discounts to those who participate in weight loss programs or to enroll in gyms (Bachman, 2007; Sevick *et al.*, 2000). For

Yildiz and Kara (2012), the change in the attitude of consumers towards the adoption of healthier routines is one of the factors that contribute to the growth of the fitness industry.

In 2016, the number of Americans who used the services from the fitness centers reached the order of 57.3 million. Regarding the years of 2009 and 2015, respectively, the increases in the contingent of users were 26.5% and 3.6%. Currently, in the United States, operate a little more than 36 thousand companies in this sector. In the world context, in 2015, more than 186 thousand health club served 151.5 million consumers, totaling a revenue of approximately 81 billion dollars (IHRSA, 2017).

The statistics reveal an attractive market and of intense competition. However, this industry is marked by significant rates of disassociation. Therefore, managers should turn their attention to customer retention strategies, which will generate positive gains in indicators such as cash flow, market share, and profitability (Avourdiadou and Theodorak is, 2014). However, loyalty involves the understanding of how the customers of the fitness segment evaluate the services received. Service quality is a key factor in this process (Ferrand *et al.*, 2010; García Fernández *et al.*, 2012; Avourdiadou and Theodorak is, 2014; Yu *et al.*, 2014).

By offering a high level of service, the organizations contribute to a greater psychological commitment of the practitioners of physical activities. On the other hand, the discontinuation of physical exercises is driven by failures in service delivery. Some reasons support these arguments: first, fitness services have unique characteristics when compared to other services. Consuming a sports service requires a high rate of user participation. Thus, the achievement of customer objectives depends on how well he exercises its role in the service process; second, some subjective factors impact on the judgments in relation to the fitness service. Perceived motivations and constraints are some examples (Alexandris *et al.*, 2004). Through this context, companies need to increase investments in service attributes that are valued by consumers and, at the same time, show organizational performance below expectations.

In light of the above, this study aims to identify which factors, in the literature, delimit the concept of

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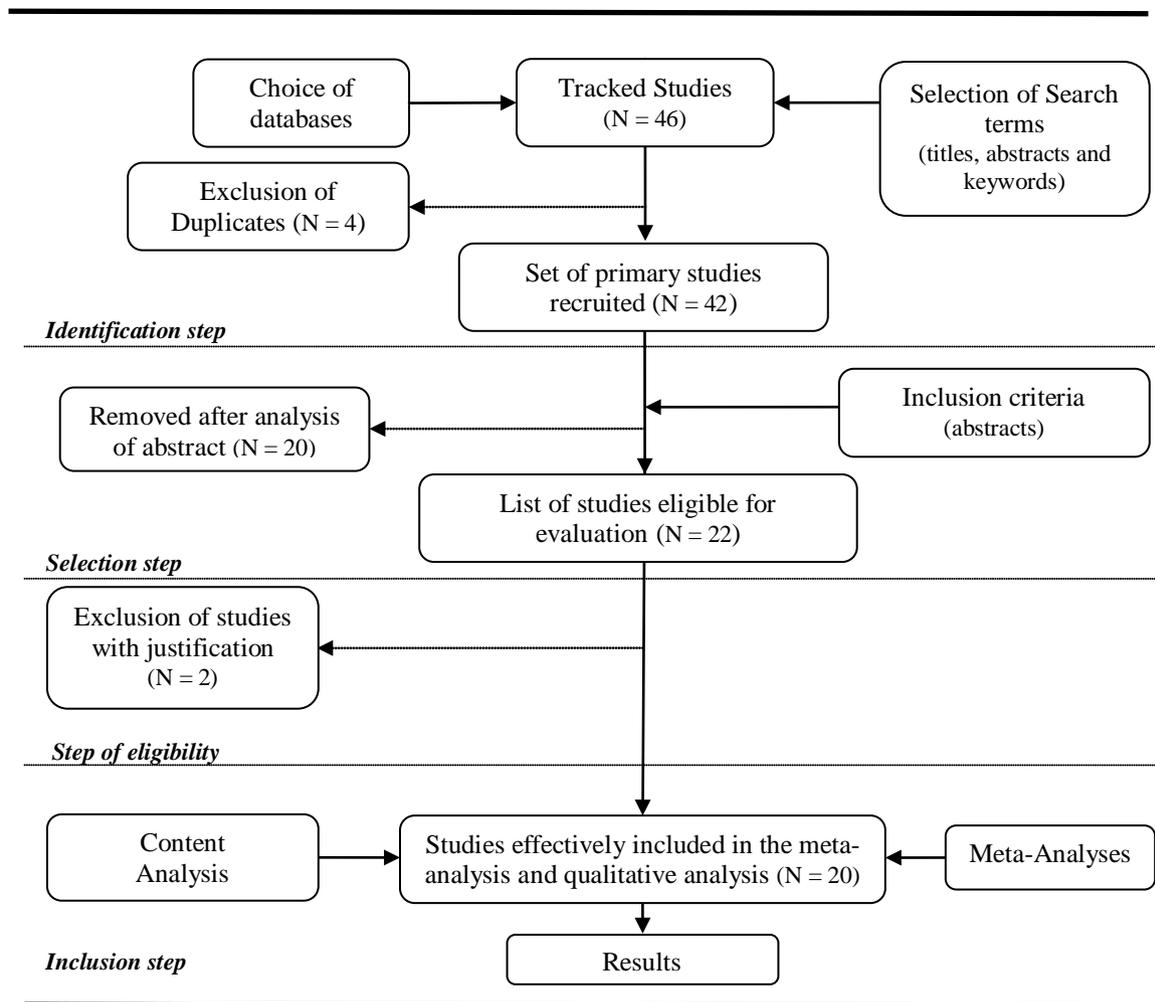
service quality in the segment of gyms. Parasuraman *et al.* (1988) recognized that this concept was influenced by the environment. Quality elements of one industry is not similar to that of another, in its fullness. Therefore, this study is directed to answer the following key question: what attributes circumscribe the quality of service in gyms? Issue has not yet been exhausted in the literature. The work is justified from the insights provided to scholars and managers of the area, providing a deeper understanding of the nature of the term service quality. Important theme for the dynamics of the service process in gyms, because it can shed light on some elements that cause the high rates of dropouts in the fitness industry. Knowing the elements that the literature emphasizes as essential in the service of a gym will help managers make more effective decisions. This will help them hone their services and delight customers, increasing the chances of repeat purchases. For this, a systematic review of the literature and a content analysis were developed.

Fundamentals support the combined use of these techniques. Initially, it is beneficial to use the systematic review for studies in which the researcher wants to identify and evaluate all relevant researches on a phenomenon of interest, using a conservative tone to follow an explicit, rigorous and transparent methodological approach. In this class of literature review, a protocol is configured as an essential component (Greenhalgh *et al.*, 2004; Moher *et al.*, 2015; Tranfield *et al.*, 2003). This scenario is aligned with this paper, which adopted the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA), procedure widely used in health studies such as the fitness segment (Gulliver *et al.*, 2010; Liberati *et al.*, 2009; Sisask and Värmik, 2012). In addition, our review explores overviews that have not yet been worked and that deal with state of the art in relation to the service quality in the fitness sector. Finally, the understanding of the service quality phenomenon, due to its complexity and specificity, demands the researcher to use a flexible technique to processing of data. This motivated the choice by content analysis. Understanding the state of the art requires a large volume of textual data, this demands the application of a technique that simplifies this data mining work. By transforming texts into a network of categories it is possible to clearly and comprehensively understand the meanings surrounding the observed phenomena (Hsieh and Shannon, 2005).

## II. METHOD

Figure 1 illustrates the methodological procedures adopted in this systematic review study. For Tran field *et al.* (2003), this typology of literature review is useful when the researcher, supported by a method, intends to narrow a voluminous set of evidence and

transform it into a short and simple report, which helps the reader to understand a topic of their interest. The authors emphasize that it is possible to minimize the bias that the researcher imposes in the step of selecting the references, in order to refine more explicitly and synthetically its conclusions on the articles chosen (Tran field *et al.*, 2003). These fundamentals support the choice of this technique.



Source: Prepared by the authors

Figure 1: Methodological Design

In this study, a reduced version of the approach called *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA) was employed, which originally has a checklist with 27 items. Anomalous aspects to the Administration area and not applicable to this research were disregarded. Twenty-three items of this methodology were processed (except those relating to protocol / registration, additional analysis, and financing). The presence in titles, abstracts or keywords of the following terms was demarcated as preliminary criterion of eligibility: "service quality" or "fitness center"; "service quality" or "gym"; "service quality" or "health club"; "calidad del servicio" or "centro de fitness". The search occurred in the Emerald, ScienceDirect and EBSCO data bases, in the middle of April 2017, establishing restrictions concerning the language of the article (English, Portuguese or Spanish), typology of the publication (only articles in journals) and publication situation (free access in full). Time limits were not prefixed. In the identification phase, a total of 46 articles were tracked. However, four duplications between the bases were found and excluded. A set of

primary studies and initially recruited was composed of 42 papers.

The abstracts of all articles that were part of this embryonic group were read. The objective was to evaluate whether each of them met the following inclusion criteria: i) is classified as an empirical study; ii) contribute to the identification of determinants of service quality in fitness centers; iii) have the full text available; iv) is published in English, Spanish or Portuguese. Meeting all criteria take the article to the status of eligible for evaluation (selection step). However, the lack of information in the abstracts did not eliminate them immediately. In these cases, a full reading was made to determine if the article was prepared to integrate the list of selected. Twenty-two papers constituted this collection. The other twenty violated at least one of the criteria mentioned, being excluded from the evaluation scope. Among them, fifteen did not contribute to the identification of attributes that circumscribe service quality in gyms, one was a theoretical essay and four were outside the scope of analysis (aquatic centers,

badminton, taekwondo and recreational facilities). These arguments support the removal process.

The subsequent phase involved the complete reading of each of the 22 articles eligible for evaluation. This initial analysis allowed the exclusion of two studies because they did not effectively contribute to the research question. The others were included in the meta-analysis and qualitative analysis steps. The first phase was based on a descriptive statistical evaluation of the following variables: database, journal title, year of publication, authors, institution with which the authors have a link, nationality of authors, title of article, keywords, number of references, most cited authors, research objective, theoretical foundation employed, application context, sample, type of research, epistemological and methodological classification, methods of collection and analysis, results, limitations and direction of future research.

In the second phase, the content analysis was developed to apprehend the dimensions and variables that symbolize the service quality of gyms. Open and axial encodings were performed. The first aims to

express the data of the article in the form of concepts, while the other identifies connections between the categories resulting from the previous step. It is based on evaluating what approximates and differentiates one category from the other (Flick, 2009).

### III. PRESENTATION AND DISCUSSION OF RESULTS

In this section, the results of the analysis of twenty articles were presented. It is noted that the largest fraction of publications is linked to the EBSCO database (55%) and report to the triennium 2012 to 2014 (45%). The oldest and most recent publications date, respectively, from 1987 and 2014. The most frequent channels of disclosure were the periodicals *Journal of Sport Management* (four articles) and *Managing Service Quality* (three articles) which have, in the present day, the impact factors on the order of 0.684 and 1.286 respectively. Table 1 illustrates the databases, year and periodical in which the articles were publicized.

Table 1: Databases, year and publication journal

Variables Database	F <sub>A</sub>	F <sub>R</sub>	Variables Journal	F <sub>A</sub>	F <sub>R</sub>
EBSCO	11	55%	Escritos de Psicología	1	5%
Emerald	6	30%	Holos	1	5%
Science Direct	3	15%	International Journal of Retail & Distribution Management	1	5%
Total	20	100%	International Journal of Sports Marketing & Sponsorship	1	5%
Year	F <sub>A</sub>	F <sub>R</sub>	International Sports Journal	1	5%
1987	1	5%	Journal of Park and Recreation Administration	1	5%
1995	2	10%	Journal of Sport Management	4	20%
1998	1	5%	Managing Service Quality	3	15%
1999	1	5%	Measurement in Physical Education & Exercise Science	1	5%
2004	1	5%	Procedia - Social and Behavioral Sciences	1	5%
2005	2	10%	Revista de Psicología del Deporte	1	5%
2007	1	5%	Social Behavior and Personality	1	5%
2008	1	5%	Sport Management Review	1	5%
2010	1	5%	Sport, Business and Management: An International Journal	1	5%
2012	2	10%	Suma Psicológica	1	5%
2013	3	15%	Total	20	100%
2014	4	20%	Note: F <sub>A</sub> : absolute frequency; F <sub>R</sub> : relative frequency		
Total	20	100%			

Source: Research (2017)

Regarding the nationality of the authors, Greece and United States were the countries that stood out. The Greeks and the Americans, together, were responsible for 50% of the publications, making each of them 5 papers. Spain and South Korea also point out as secondary exponents in the area of quality management in fitness centers. Eleven other nations also sowed theoretical contributions in the fitness industry, of which eight are located in the European (Portugal, Sweden, France, United Kingdom and Turkey) and Asian continents (Malaysia, Hong Kong, and China). Table 2

shows the authors of the articles evaluated in the review and their origins.

Moreover, Nicholas D. Theodorak is and Jerónimo García Fernández, with three publications each, were the most active authors. On a lower level, other names stand out such as Ainara Bernal García, Pinelopi Athanasopoulou, Susan Y. Kim and James J. Zhang. All these with two papers. In addition, forty-five different authors also recorded studies. The number of authors per article ranged from 1 to 7 participants. Only two articles presented these extreme values of authors.

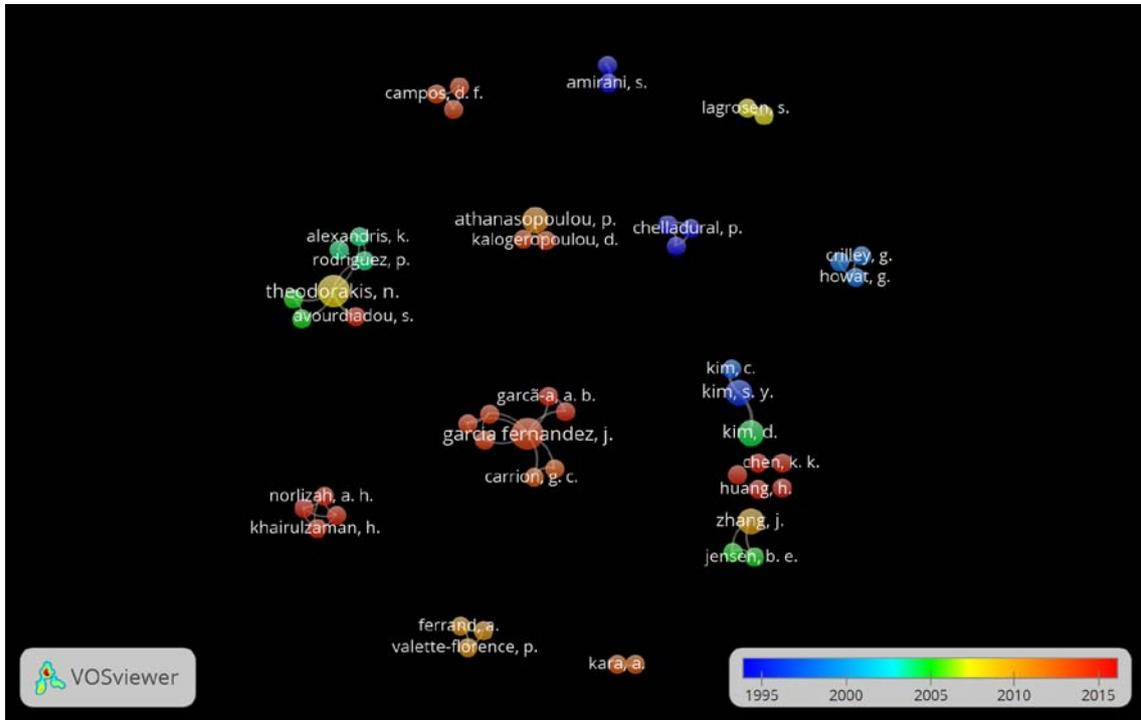
One of them had sole author and another one had the participation of seven members.

Table 2: Authors of the articles and their nationalities

Variables Countries	F <sub>A</sub>	F <sub>R</sub>	Variables Authors	F <sub>A</sub>	F <sub>R</sub>
Greece	5	25%	Nicholas D. Theodorakis	3	15%
EUA	5	25%	Jerónimo García Fernández	3	15%
Spain	3	15%	Ainara Bernal García	2	10%
South Korea	2	10%	Pinelopi Athanasopoulou	2	10%
			Susan Y. Kim	2	10%
			James J. Zhang	2	10%
Canada; Australia; Portugal; Sweden; France; United Kingdom; Turkey; Brazil; Malaysia; Hong Kong; China	1**	25%	P. Chelladural; Fiona L. Scott; John Haywood-Farmer; Daeshik Kim; Shahrzad Amirani; Julie Baker; Changhwan Kim; G. Howat; D. Murray; G. Crilley; Konstantinos Alexandris; Pedro Rodriguez; Pedro J. Sarmento; Eddie T. C. Lam; Barbara E. Jensen; Yanni Afthinos; Pantelis Nassis; Stefan Lagrosen; Yvonne Lagrosen; Alain Ferrand; Leigh Robinson; Pierre Valette-Florence; Gabriel Cepeda Carrión; David Martín Ruíz; Süleyman Murat Yildiz; Ali Kara; Dora Kalogeropoulou; John Douvis; Alejandro Lara; Pablo Galán; E. Pereira Filho; D. F. Campos; M. L. R. Dantas; Sevastia Avourdiadou; Jesús Fernández Gavira; A.L. Rozita; A. A. Nor Zana; H. Khairulzaman; A. H Norlizah; Hyun Soon Yu; Dae Hyun Kim; Kenny K. Chen; Chris Henderson; Sophia D. Min; Haiyan Huang	1*	*30%
			Total		100%
			Note: (*) 45 authors have only one publication (**) 11 countries have only one publication F <sub>A</sub> : absolute frequency; F <sub>R</sub> : relative frequency		

Source: Research (2017)

Behavioral evidences of researchers point to a network of co-authorship that evolves scatteredly, as shown in Figure 2. Only three clusters show more apparent ramifications. One of these clusters is labeled *purely Greek current* by reason of the nationality of the majority of the theorists that integrate it. It is a relatively recent group, with publications dating from the beginning of the years 2000. Seven authors compose this grouping, with Nicholas Theodorakis as the exponent, whose empirical contributions gravitate, in essence, to the understanding of the dimensions of the quality of the fitness service and as distinct groups evaluate each one.



Source: Research (2017)

Figure 2: Network of co-authorship

Note also an emerging group, influenced by Spanish academics and with prominence for Jerónimo García Fernández. The Cluster was named *purely Spanish current*. Eight authors make up this contemporary conglomerate, whose studies have been propagated since 2012. This community currently focuses on the analysis of the relationship between service quality and variables related to consumer (satisfaction, fidelity, perceived value, among others). Another cluster more robust and intense was evidenced, entitled *American-Korean current*. Nine authors incorporate it and whose origins are more heterogeneous than the other groups. A peculiar feature of the group is the connection between older authors (with publications from the 1990s) and those more recent. There are indications that his current research is based on constructs of more classic authors on the

theme, the example of Daeshik Kim and Susan Y. Kim (instrument QUESC). The most current investigations of this current have objectives similar to the *purely Spanish current*, yet the embryonic works had a stronger approximation with the *purely Greek current*.

Related to institutions (Table 3), the Aristotle University of Thessaloniki was the one that most disseminated studies within the defined scope. There were four articles attributed to this organization. University of Sevilla, University of Peloponnese, Democritus University of Thrace, University of Texas and University of Athens, with two papers each, also integrate the group of the most incisive educational institutions in the art of publishing theoretical-empirical constructions. Furthermore, another twenty institutions, with a single article, were evidenced in the literature review.

Table 3: Institution of authors of articles

Variables Institution	F <sub>A</sub>	F <sub>R</sub>
Aristotle University of Thessaloniki (Greece)	4	20%
University of Sevilla (Spain)	3	15%
University of Peloponnese (Greece)	2	10%
Democritus University of Thrace (Greece)	2	10%
University of Texas (EUA)	2	10%
University of Athens (Greece)	2	10%
University of Western Ontario (Canada); Cleveland State University, University of Florida, Springfield College (EUA); Pennsylvania State University (EUA); Loyola University (EUA); University of Georgia (EUA); Korea National University of Physical	1*	*25%

Education (South Korea); University of South Australia (Australia); Hong Kong Baptist University (Hong Kong); Shanghai University of Sport (China); Polytechnique Institute of Bragança (Portugal); University of Porto (Portugal); University West e Chalmers University of Technology (Sweden); Université Poitiers (France); Loughborough University (United Kingdom); Universite Pierre Mendes (France); Mugla University (Turkey); IFRN (Brazil); UnP (Brazil); Sookmyung Women's University (South Korea); Universiti Teknologi MARA (Malaysia). Total	100%
Note: (*) 20 institutions have only one publication. F <sub>A</sub> : absolute frequency F <sub>R</sub> : relative frequency	

Source: Research (2017)

Regarding the aspects of the content of the articles, it can be seen that the terms service(s), fitness and quality were those that are more evident in the titles of the studies. The first word contains 13 mentions, while the other two have 11 indications. These same terminologies are also noted in the keywords. What differs is only the position that occupies in the ranking and the frequency with which they appear. The word quality is the most cited with 11 occurrences, followed by service(s) and fitness. The last two have 7 and 6 incidences respectively. Besides, six articles did not indicate keywords and are linked exclusively to one of the following journals: Journal of Sports Management, International Journal of Retail & Distribution Management and International Sports Journal.

The average number of references used in the articles was 50.95, with a standard deviation of 27.48. There are indications that the grouping of articles presented a well-dispersed behavior. The article with the largest contingent had 102 references, while 9 shows the lowest value found in the studies. The most cited

work, among the twenty analyzed, was one whose authorship belongs to Daeshik Kim and Susan Y. Kim, entitled *QUESC: An Instrument for Assessing the Service Quality of Sport Centers in Korea*. In eleven papers this phenomenon occurred, possibly because it was one of the first academic writings (1995) in the area. Besides this, underline the studies of Eddie Lam, James Zhang and Barbara Jensen (6 citations); Yanni Afthinos, Nicholas Theodorakis and Pantelis Nassise (5 citations), both in 2005; as well as those of G. Howat, D. Murray and G. Crilley (1999) and P. Chelladurai, Fiona Scott and John Haywood-Farmer (1987) with four indications each one.

In addition, the relation between the impact factor of the journal and the number of global citations of each study was drawn. The first variable was collected in the official sites of the journals, while the second variable was captured from the statistics published in Google Scholar. The information were expressed in Table 4.

Table 4: Impact factor and number of global citations of each article

Label	Authors (year)	Journal	FI	FI <sub>p</sub>	NC	NC <sub>p</sub>
E1	Chelladurai <i>et al.</i> (1987)	Journal of Sport Management	0.684	0.382	104	0.376
E2	Kim and Kim (1995)	Journal of Sport Management	0.684	0.382	297	2.727
E3	Amirani and Baker (1995)	International Journal of Retail & Distribution Management	0.543	0.076	20	-0.648
E4	Kim and Kim (1998)	Journal of Sport Management	0.684	0.382	51	-0.270
E5	Howat <i>et al.</i> (1999)	Journal of Park and Recreation Administration	0.000	-1.105	184	1.351
E6	Theodorakis <i>et al.</i> (2004)	International Sports Journal	0.000	-1.105	58	-0.185
E7	Lam <i>et al.</i> (2005)	Measurement in Physical Education & Exercise Science	0.320	-0.409	148	0.912
E8	Afthinos <i>et al.</i> (2005)	Managing Service Quality	1.286	1.691	228	1.887
E9	Lagrosen and Lagrosen (2007)	Managing Service Quality	1.286	1.691	73	-0.002
E10	Athanasopoulou (2008)	Managing Service Quality	1.286	1.691	40	-0.404
E11	Ferrand <i>et al.</i> (2010)	Journal of Sport Management	0.684	0.382	103	0.364
E12	García Fernández <i>et al.</i> (2012)	Revista de Psicología del Deporte	0.440	-0.148	43	-0.367
E13	Yildiz and Kara (2012)	International Journal of Sports Marketing & Sponsorship	0.394	-0.248	23	-0.611
E14	Athanasopoulou <i>et al.</i> (2013)	Sport, Business and Management: An International Journal	0.000	-1.105	6	-0.818
E15	García <i>et al.</i> (2013)	Escritos de Psicología	0.000	-1.105	15	-0.709
E16	Pereira Filho <i>et al.</i> (2013)	Holos	0.000	-1.105	1	-0.879
E17	Avourdiadou and Theodorakis	Sport Management Review	1.193	1.489	29	-0.538

	(2014)					
E18	García Fernández <i>et al.</i> (2014)	Suma Psicológica	0.144	-0.792	13	-0.733
E19	Rozita <i>et al.</i> (2014)	Procedia - Social and Behavioral Sciences	0.170	-0.735	1	-0.879
E20	Yu <i>et al.</i> (2014)	Social Behavior and Personality	0.366	-0.309	26	-0.574

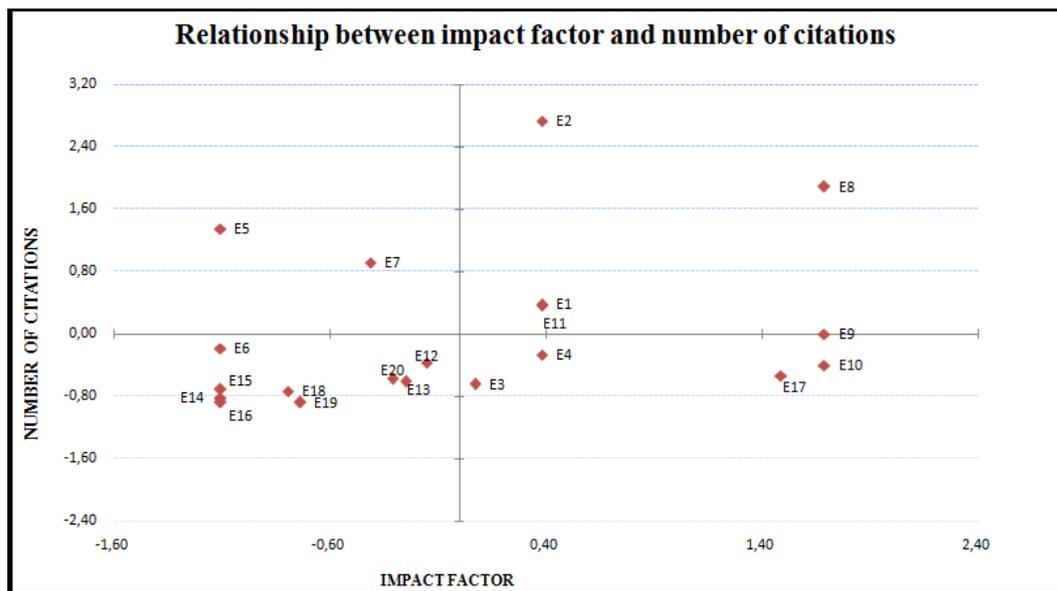
Note: FI – impact factor of the journal; FI<sub>p</sub> – standardized scores for impact factors; NC – number of citations of the article. Information collected on Google Scholar; NC<sub>p</sub> – standardized scores on the number of citations of article.

Source: Google Scholar and official sites of the journals (2017).

Figure 3 shows that studies E8 (Afthinos *et al.*, 2005) and E2 (Kim and Kim, 1995) make up the literature elite focused on service quality in gyms. To the first work, it is peculiar to its high dissemination in the academic environment and it is published in a journal of expressive impact in front of the others. The paper by Kim and Kim (1995), even with the high volume of citations, differs in that it has a smaller impact factor.

The investigations of Chelladurai *et al.* (1987, E1); Ferrand *et al.* (2010, E11); Lagrosen and Lagrosen (2007, E9) also occupy an area of academic

prominence. The distinction is that the first two studies have a larger volume of citations and smaller impact factors compared to the last one. Conversely, E5 (Howat *et al.*, 1999) and E7 (Lam *et al.*, 2005) portray well-cited studies; however, they are in journals of low relevance. The largest fraction of the works evaluated is located in the quadrant whose typical aspects are small quantitative of citations and low index of academic credibility of the journal. Nine papers are in this region, being: E6, E12, E13, E14, E15, E16, E18, E19 and E20.



Source: Prepared by the authors

Figure 3: Relationship between impact factor and overall number of citations

Towards the objectives, the articles highlighted the relationship between service quality and a certain set of variables related to consumer (for example, satisfaction, repurchase or behavior intentions, perceived value, and loyalty). This purpose was verified in seven papers: Ferrand *et al.* (2010), García Fernández *et al.* (2012), García *et al.* (2013), Avourdiadou and Theodorakis (2014), García Fernández *et al.* (2014), Rozita *et al.* (2014) and Yu *et al.* (2014). This tendency is recent to the fitness industry, with the earliest writings dated 2010; as well as emerging as a theoretical current influenced by Spanish researchers. Other purposes came with a pulsating character, such as the assessment of differences in perceptions of service quality among groupings marked by socio-demographic and motivational aspects, usage patterns; and the

construction of instruments to measure service quality (5works each).

Theorists of seminal studies in the field of service quality were the most cited authors. Two articles stand out: *SERVQUAL: A multiple-item scale for measuring customer perceptions of service quality* (1988) and *a conceptual model of service quality and implications for future research* (1985). Both have the authorship of Parasuraman, Zeithaml and Berry; besides were among the three most cited authors, in ten articles. Sometimes the two, simultaneously, occupied this prominent place; sometimes only one of them. In studies of Kim and Kim (1995), Howat *et al.* (1999); the two papers fell into the category of citation leaders. Already in Pereira Filho *et al.* (2013); only that published on mid of 1985, was located on the aforementioned

threshold. On the other hand, in the empirical works of Amirani and Baker (1995), Kim and Kim (1998), Lam *et al.* (2005), Afthinos *et al.* (2005), García Fernández *et al.* (2012); only the article published in 1988 was positioned at the top. Moreover, the study of Kim and Kim (1995) which proposes one of the pioneer scales (labeled QUESC) in the fitness segment also occupied a position of relevance, being one of the most cited on three occasions.

As for the theoretical foundations employed, the contributions of Oliver and Parasuraman, Zeithaml and Berry were intensified. In ten articles, the use of the paradigm of disconfirmation and the standardized multidimensionality of the service were recurrent. The contexts of research execution practically fitness center (public and/or private) or sports complexes, which had this type of business in the package of services offered. Only in the study of Amirani and Baker (1995) the focus was different, having as the field of application a university. The number of participating organizations ranged from 1 to 30 enterprises. In nine papers, the application of collection tools focused on only one company.

The studies were predominantly quantitative (70%), whose samples varied between 110 and 5283 subjects. For the qualitative (15%), the sample size ranged from 10 to 100 individuals. The other articles were classified as mixed (15%) because they combined qualitative and quantitative approaches. In this group, the number of participants was between 8 and 1202. Regarding the epistemological and methodological foundations, there was a predominance of positivist studies and with the use of survey (85%). Exceptions were noted in the works of Lagrosen and Lagrosen (2007), Athanasopoulou *et al.* (2013), Athanasopoulou (2008). The three articles have a constructivist epistemological paradigm. However, the first adopted the Grounded Theory, whereas the last chose the case study. Furthermore, it is perceived that the author Pinelopi Athanasopoulou has a bias towards the qualitative approach.

The hegemony of the questionnaire as a collection method was perceptible. In seventeen studies, this instrument was used. Relative to the techniques of analysis, the internal consistency test (Cronbach's alpha), factorial analysis and analysis of variance (ANOVA) were the most employed. Thirteen, twelve and nine were the quantities of evidence of the use of each of the respective statistical techniques.

Alluding to results, the main relationship discussed was the effect of service quality on consumer satisfaction. The studies of Ferrand *et al.* (2010); García Fernández *et al.* (2012); Avourdiadou and Theodorakis (2014); Rozita *et al.* (2014) and Yu *et al.* (2014) found a positive and direct impact among the variables mentioned above. In turn, other relationships were propagated to a lesser extent; Such as the positive and

direct effect that satisfaction entails on future repurchase intentions. The works of Avourdiadou and Theodorakis (2014), Yu *et al.* (2014) expose this correlation.

In terms of differences in perceptions of quality, clusters of customers with different ages were the most investigated. The studies of Kim and Kim (1998); Theodorakis *et al.* (2004); Afthinos *et al.* (2005); García Fernández *et al.* (2012); García *et al.* (2013) identified significant differences between the quality items desired by consumers with different ages. All studies corroborated this phenomenon. In addition, several socio-demographic (age, income, level of education, marital status and occupation), motivational and of use pattern (type of gym, association time, duration of use per visit and frequency of use) criteria were examined, but without great consistency in the results found. For example, the variable age whose findings by Kim and Kim (1998) and Afthinos *et al.* (2005) do not align with those of García Fernández *et al.* (2012) and García *et al.* (2013). It was also pointed out the plurality and non-standardization of the dimensions that symbolize the quality of the fitness service. The quantitative of dimensions ranged from 2 to 11, without expressing solidity in the findings.

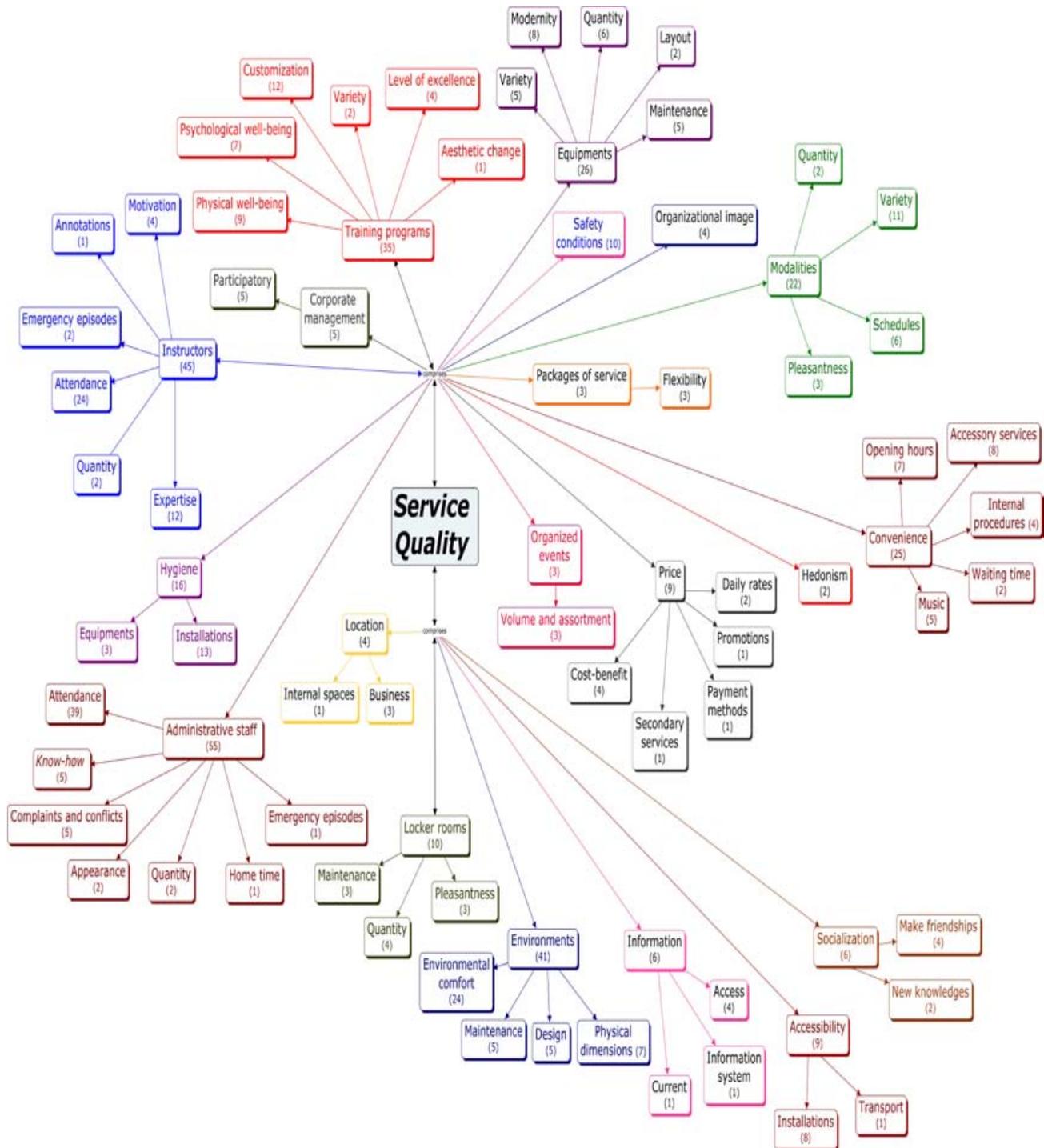
The notes on the limitations of articles gravitated around the impossibility of generalizing the results. The reasons given were predominantly the small sample size, the smallest number of participating institutions and geographic spaces investigated (did not compare cultural variations) and the non-probabilistic trace of the samples. In eleven articles, these statements were manifested. The works of García *et al.* (2013) and Avourdiadou and Theodorakis (2014) showed the cross-section of the samples as a limiting factor.

Already the directions of future research turn around the replication of the study itself, increasing the amount of fitness center, variables and territories investigated. The review of the quality measurement scales of the fitness service was also mentioned. These points were manifested in fourteen of the evaluated articles.

Finally, the multiple meanings that circumscribe the service quality of fitness center were grouped into twenty categories (Figure 4). As for the number of citations, the two categories of greater emphasis are related to the human resource theme. The first position is occupied by that entitled administrative staff, followed by instructors; which presented 55 and 45 indications, respectively. This result elucidates how relevant the employee is in the context of the fitness industry. Phenomenon that highlights the conclusions of Athanasopoulou (2008), by mentioning that, because of the constant contacts with clients, gyms employees are paramount in the service quality and must have the skills and knowledge consistent with the function in the business.

Furthermore, the attendance subcategory was the prominent aspect both in one and the other category. The excerpts "the instructors should be sociable, communicative, friendly and to be caring for clients" from the study of Athanasopoulou (2008); and "employees behave in a pleasant way in interactions with customers" of the work of Lagrosen and Lagrosen

(2007) exemplify the phenomenon. Thus, the way in which clients interact with instructors and administrative staff was perceived as a key item in providing the service. In the administrative staff category, the attendance element appeared 39 times; while in instructors, this number was 24 evidence.



Note: (number of references). Source: Prepared by the authors

Figure 4: Factors of service quality in fitness centers, emerged from the literature

The environments category had 41 references, occupying the third place. This corroborates with the notes of Yu *et al.* (2014), which cite the environment as one of the elements that contribute to satisfaction, customer retention, and profitability of the company. The biggest highlight occurred in the traces of luminosity, ventilation, and smell that made up the physical spaces of the gym and made them more pleasant (subcategory labeled environmental comfort with 24 notes). The study by Fernández *et al.* (2012), for example, presents textual fragments that illustrate these elements, such as: "temperature is adequate"; "there is pleasant smell" and "humidity is appropriate".

Subsequent posts were filled by categories training programs (35), equipments (26), convenience (25) and modalities (22). Concerning the training programs, the customization, with twelve citations, was the most preponderant item. Understanding the needs and desires of the clientele is essential in the management of a fitness center. Some theorists (Kim, 1995; Afthinos *et al.*, 2005) have mentioned this aspect of service in their empirical essays, as the excerpts reveal: "exercise programs or differentiated goals"; "family programs"; "children's programs". For the equipments, the launch status, the aspect of new (modernity subcategory) was cited in eight studies. This reinforces the attention that the managers must offer the

periodical renovation of the set of apparatus for the practice of exercises and furnishings available. Mentions to "modern-looking equipment" were recurrent in textual extracts from the works of Lam *et al.* (2005); Yildiz and Kara (2012); Yu *et al.* (2014), for example.

In terms of convenience and modalities, the supremacy was directed, respectively, to the subcategories accessory services (snack bars, sporting goods stores, among others) and variety of sports activities. The studies of Chelladurai (1987) and Howat *et al.* (1999) reinforce the conception of ancillary services from the respective sections: "variety of foods offered at the snack bar" and "the center must have adequate facilities for food and drinks". Theodorakis *et al.* (2004), on the other hand, emphasized the diversity of modalities in the fragment "wide variety of programs". Among the seven most commented categories, only convenience is not part of the main service of a fitness club.

Another thirteen categories were evidenced to a lesser extent. Participated in this list: hygiene, location, locker rooms, information, organized events, accessibility, price, packages of service, organizational image, socialization, hedonism, safety conditions and corporate management. Figure 5 illustrates the categories and subcategories linked to service quality in gyms.

Figure 5: Categories and subcategories of meanings of service quality in gyms

Categories	Subcategories	Concepts	Occurrences*
Training programs	Physical well-being	Adaptation of the body in order to respond and resist, satisfactorily, the physical efforts of daily life; in their intensity and time of exposure.	E1, E3, E6, E9, E15, E16.
	Psychological well-being	The good functioning of the human mind, in which the individual is able to have self-control and autonomy, to possess a positive view of himself.	E6, E9, E14, E15.
	Customization	Adaptation of service, or part of it, to meet the needs and desires of consumers.	E2, E3, E4, E5, E6, E7, E8, E11, E12, E14, E16, E20.
	Variety	Assortment of programs available.	E7, E13, E20.
	Level of excellence	Programs are run at a level higher than consumer expectations.	E7, E11, E17, E20.
	Aesthetic change	Reach of body beauty patterns delimited by society, from physical activity.	E9.
Instructors	Expertise	Particular knowledge of the area of activity of the instructors, acquired through study, practice or experience.	E1, E2, E4, E5, E7, E8, E9, E10, E11, E13, E14, E16, E20.
	Emergency episodes	Instructor's ability to perform emergency procedures.	E1, E2, E4, E8.
	Motivation	Instructor's ability to stimulate the client to reach their goals.	E1, E2, E4, E8, E12, E16.
	Attendance	Intangible aspects evidenced during moments of interaction between instructor and client.	E2, E4, E6, E7, E8, E10, E11, E12, E13, E14, E16, E20.
	Annotations Quantity	Notes are written by the instructor, and kept in record, about training programs and client performance. Number of instructors who make up gym staff.	E2, E4, E8. E12, E16.

Modalities	Variety	Diversities of different categories of sports practices offered by the gym.	E1, E2, E3, E4, E5, E6, E7, E8, E12, E13, E14, E16, E20.
	Quantity	Number of distinct species of sports practices offered by the gym.	E1, E13.
	Schedules	The grid of the sports activities offered by the gym, marking start time, duration and responsible instructor.	E1, E5, E11, E12, E14, E16.
	Pleasantness	How enjoyable for customers are the sports activities offered by the gym.	E7, E12, E20.
Hygiene	Equipments	Clean appearance with which equipment and furniture are presented to consumers.	E1, E7, E16, E20.
	Installations	Cleaning of each of the physical spaces of the gym.	E1, E2, E4, E5, E6, E7, E8, E10, E12, E13, E14, E15, E16, E20.
Organized events	Volume and assortment	Quantity and diversity of events organized by the gym and open to the community in general.	E1, E2, E4, E8.
Price	Daily rates	Give the right, for a certain time, of the use of equipment and spaces of the fitness center.	E1.
	Cost-benefit	Relationship between the value paid (sacrifice) and advantages perceived by the client during provision of the service.	E2, E4, E5, E8, E11, E16.
	Promotions	Special conditions of payment (value and term) offered by the fitness center in order to leverage the number of enrollments.	E10.
	Payment methods	Means that the gym provides for customers to pay their monthly fees (checks, cards, cash, among others).	E10.
	Secondary services	Value charged on goods and services that are not essential to the functioning of a health club (snack bar, resale store of sportswear and supplements, among others).	E1.
Convenience	Opening hours	Duration in which the gym is in operation.	E1, E3, E7, E12, E19, E20.
	Accessory services	Availability of services that are not essential to the functioning of a health club (parking, snack bar, resale store of sportswear and supplements, among others).	E1, E2, E4, E5, E7, E10, E16, E20.
	Internal procedures	The ease with which consumers perform internal procedures at the gym.	E1, E2, E4, E8.
	Waiting time	Time the consumer takes to be served.	E14, E18.
	Music	Style and volume of music present in the fitness center.	E2, E4, E7, E8, E10, E14, E16, E20.
Administrative staff	Attendance	Treatment with which the clients are received by the administrative employees during the service.	E1, E2, E3, E4, E5, E6, E7, E8, E9, E10, E11, E12, E13, E14, E15, E16, E18, E19, E20.
	Know-how	The technical knowledge of the administrative employees to carry out their work activities.	E1, E3, E5, E7, E15, E20.
	Complaints and conflicts	How administrative employees receive, record, and route solutions to customer complaints and conflicts.	E2, E4, E7, E8, E10, E14, E16, E20.
	Appearance	Clothing and neatness with which employees introduce themselves to customers.	E7, E16, E20.
	Quantity	Number of employees that compose administrative staff of the gym.	E11, E16.
	Home time	Time that the employee has bonded with the gym.	E10.
	Emergency episodes	Ability of the administrative staff to act in emergency situations.	E16.
Locker rooms	Maintenance	The state of conservation of the locker rooms and bathrooms of the fitness center.	E1, E7, E13, E20.
	Quantity	Available quantity of locker rooms, bathrooms and showers in the gym.	E10, E13, E16.
	Pleasantness	How pleasant, for customers, are the locker rooms, bathrooms of the gym.	E2, E3, E4, E7, E8, E20.

Location	Internal spaces	The positioning of the internal spaces with respect to the global structure of the fitness center.	E1.
	Business	The geographic positioning of the gym within the municipality in which it operates.	E7, E14, E16, E20.
Equipments	Variety	Diversity of equipment available at the gym.	E1, E3, E7, E16, E20.
	Modernity	Availability of new equipment recently launched in the market.	E5, E7, E10, E11, E12, E13, E16, E20.
	Quantity	Number of equipment available at the gym.	E7, E12, E16, E20.
	Layout	Physical arrangement of equipment available at the fitness center.	E10, E16.
	Maintenance	State of conservation of equipment available at the fitness center.	E5, E12, E14, E15, E16.
Environments	Environmental comfort	Traces of luminosity, ventilation, smell; sensory aspects that make the spaces of the gym pleasurable to the consumer.	E2, E4, E5, E6, E7, E8, E11, E12, E13, E14, E15, E16, E18, E19, E20.
	Physical dimensions	Adequacy of the size of the spaces to the number of clients.	E1, E2, E4, E7, E8, E9, E12, E13, E15, E20.
	Maintenance	State of conservation of training rooms, snack bar; of all the spaces of the fitness center.	E5, E7, E13, E16, E19, E20.
	<i>Design</i>	Aspects of the environment that improve its functionality and aesthetics.	E1, E2, E4, E6, E7, E8, E20.
Information	Access	Ease of access to the information offered by the fitness center.	E2, E4, E8, E11, E19.
	Information system	Mechanisms that the gym has to keep its client informed about aspects of the service.	E12.
	Current	The information provided by the gym is current.	E5.
Safety conditions	-	Safety conditions offered in the spaces of the academy, protecting clients against violence.	E2, E4, E5, E7, E8, E11, E12, E16, E20.
Accessibility	Installations	Easy access of the clients to the general facilities of the academy (internal spaces, machinery, and furniture).	E1, E2, E4, E7, E8, E10, E11, E16, E20.
	Transport	How well served the gym is in relation to public transport systems (buses, train, taxi, cycle paths, among others).	E2, E4, E8.
Corporate management	Participatory	Collaborative way in which the gym is managed.	E5, E9, E12.
Socialization	Make friendships	The fitness center makes it possible to build new social relations of friendship.	E6, E11, E14.
	New knowledges	The fitness center allows constructions of new knowledge, from the social interactions developed in space.	E6, E7, E20.
Hedonism	-	Feeling of pleasure offered by the practice of physical activity in fitness centers.	E6, E9.
Packages of service	Flexibility	Diversity of packages of service that the gym has to enroll customers.	E10, E14, E16.
Organizational image	-	Company reputation to consumers.	E10, E11, E12, E16.

Note. (\*) Studies in which there was evidence of the subcategory.  
 Source: Prepared by the authors

#### IV. FINAL CONSIDERATIONS

This article proposed a discussion about which factors guide the concept of quality of service in the gyms sector. For this, a systematic review of the literature was conducted with the purpose of identifying empirical works and extracting explanatory elements of quality. The meta-analysis approach assisted in this step, as well as provided a panoramic view of the thematic. Besides, a content analysis was used to understand the assortment of meanings related to the variable of interest and to condense them into a smaller number of categories. Among the findings, authors Nicholas Theodorakis (Greek) and Jerónimo García Fernández (Spanish) were the ones with the highest number of publications. The words *service(s)*, *fitness* and *quality* were the most evidenced in the titles and keywords of the studies. The most recurrent objective was the analysis of the relationship between service quality and other variables related to the consumer (satisfaction and repurchase intentions, in particular), being potentialized by a current of Spanish theorists.

As for the categories that circumscribe the service quality in the fitness industry, twenty have emerged. The two most referenced were intrinsic to human resources (administrative staff and instructors). This shows the relevance of the employees to the service provision; a fact that agrees with the notes of Athanasopoulou (2008). In sequence, those labeled environments, training programs, equipments, convenience and modalities stood out. It is noticed that only one of them (convenience) does not correlate directly with the essential service of a gym.

Limitations surround the study, such as the reduced number of databases and driving terms considered for the execution of the systematic review. Therefore, the findings are demarcated by the criteria used, including the time interval. Nevertheless, it provides insights for theorists in the field of strategic service operations management. It recommends replicating the methodology of the work, expanding to different databases. This will enable a more holistic and profound understanding of the evolution of the service quality concept in the fitness segment.

Finally, the theoretical structure that this study presented to define service quality in gyms pointed to human resources as one of the central elements. Immersed in this direction, it is recommended that future studies investigate whether or not the actual impact of this variable differs from other dimensions. Multivariate techniques can be applied for this purpose, for example, regression analysis or modeling with structural equations. Another way would be to investigate whether this factor structure is robust from replications in different cultures by applying confirmatory factorial analysis.

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