ORIGINAL ARTICLE

Perceived quality in health and fitness assessment in fitness centres: Perspectives of users and instructors

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ABSTRACT

The assessment of health and physical fitness in fitness centres plays a central role in personalizing the service and improving customer experience, working as a starting point for an exercise prescription adjusted to the needs, preferences and goals of the user. This research aims to characterize and compare the perception of quality of the fitness instructor's intervention, from the perspective of users and instructors. Data were collected from 148 users and 32 instructors from five gyms of a fitness chain in Portugal, through an online ad hoc questionnaire consisting of 10 items. Descriptive statistics (mean and standard deviation) were used for characterization, inferential (Student's t-test) for comparison and calculation of the effect size dimension (Cohen's d), for a significance level of 5% ($p < .05$). The results revealed significantly different and more positive perceptions of users in three items: timely contact to schedule the evaluation ($p = .030$; $d = 0.426$); ease of scheduling process ($p = .001$; $d = 1.474$); instructor's technical knowledge ($p = .018$; $d = 0.465$). In the 10 items, users evaluated the service more positively than the instructors themselves. The data suggests that professionals tend to underestimate their technical intervention, which may be associated with high demands, whether they are their own or institutional. The results reinforce the importance of assessing health and physical fitness and point to the need to promote greater awareness of performance and self-confidence among fitness professionals.

Keywords: Fitness service, Quality, Professional intervention, Exercise prescription.

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INTRODUCTION

The fitness sector has experienced significant growth in recent years, establishing itself as one of the most dynamic segments of the exercise and health industry. This increase in demand for healthy and active lifestyles has driven the diversification of services offered by gyms and fitness centres, with new trends emerging year after year (Newsome et al., 2024; Franco et al., 2025), encompassing a wide range of activities and programs tailored to different user profiles (EuropeActive & Deloitte, 2024; Pedragosa & Ferreira, 2025). This scenario of expansion and increasing complexity requires professional approaches based on technical and scientific evidences, focused on service quality, user satisfaction, and client retention (Dias et al., 2019; Eskiler & Safak, 2022; Ferreira-Barbosa et al., 2020a; García-Fernández et al., 2018; Gonçalves & Diniz, 2015; Huang & Kim, 2023; Xu et al., 2021).

Among the most sought-after services by fitness users are group classes, personal training, and exercise room (Cardoso, 2022; Filingeri & Rieger, 2016; Gaspar, 2021; Pedragosa & Ferreira, 2024; Silva et al., 2022), which align with the main fitness trends in recent years, particularly in Portugal (Franco et al., 2021, 2022, 2023, 2024, 2025). These services play a key role in user adherence and loyalty, especially when recognized by users as being of high quality. One of the variables that can most strongly influence perceived quality, positively or negatively, is the intervention and characteristics of the fitness instructor (Barbosa et al., 2023; Braga-Pereira et al., 2024, 2025; Campos et al., 2023; Glaveli et al., 2021; Santos et al., 2021).

Regardless of their specific role(s), exercise and health professionals working in fitness centres (e.g., gyms, health clubs) must master the fundamental principles of fitness assessment and exercise prescription. They must know how to use the results of fitness tests to design scientifically grounded, individualized programs that meet the needs, preferences, and abilities of their clients (EuropeActive, 2023; Simões & Furtado, 2021). Fitness assessment is a common and appropriate practice when planning exercise programs and should pursue the following objectives: to educate users about their current health and fitness status, according to age- and gender-specific standards; to obtain relevant data to design individualized prescriptions; to collect baseline and follow-up information to monitor progress; and to enhance user motivation by setting measurable, realistic, and achievable goals (Heyward & Gibson, 2018; Simões & Furtado, 2021; Teixeira, 2021; Zebre, 2022).

Assessing variables related to health and physical fitness is essential to the technical intervention of any instructor. Only through an initial assessment can professionals deliver adequate and individualized service (Pimenta et al., 2016). Overall, health and fitness assessment (HFA) enables fitness professionals to design safer, personalized, and goal-oriented programs, to set realistic objectives, accurately monitor client progress, and adjust initial plans when necessary (Pimenta et al., 2016). According to Zebre (2022), assuming these procedures should be conducted for all clients starting an exercise program, at least a basic evaluation should be carried out, including: health assessment (e.g., pre-exercise screening, medical history, cardiovascular risk factors, resting parameters) and physical fitness assessment (e.g., body composition, cardiorespiratory fitness, muscular strength, flexibility). This recommendation, also supported by several Portuguese technical manuals (Simões & Furtado, 2021; Teixeira, 2021), is aligned with the guidelines of the American College of Sports Medicine (2025).

The assessment of health and physical fitness parameters directly influences the intervention strategies adopted by fitness professionals, allowing them to adjust pedagogical and motivational approaches to the specific needs of each client (Campos et al., 2020). Every client is a unique individual, with distinctive characteristics. Users satisfaction may result from the congruence between perceived service quality and

individual preferences, as emphasized in Franco et al. (2012). Recent studies highlight that perceived service quality, particularly of technical intervention, is intrinsically linked to users' profiles and preferences, and may vary depending on sociodemographic variables such as gender, age, or income (Campos et al., 2021; Ortega-Martínez et al., 2021). Other studies, such as Franco et al. (2013), have compared user perception with instructors' self-perception, showing discrepancies in various behavioural dimensions. While several studies have focused on fitness instructors' behaviour during group classes (Campos et al., 2017; Dias et al., 2020; Luís et al., 2021; Simões et al., 2023), there is a noticeable lack of research exploring instructor intervention during HFA. This gap underscores the relevance of the present study, which aims to better understand how users and instructors perceive HFA intervention.

The structural and organizational heterogeneity of fitness centres directly affect the services provided and the users' perceptions. Estrada-Marcén et al. (2019) found significant variability in the implementation of procedures related to functional assessment and safety (only 67% performed HFA and only 22% required prior medical evaluation). These data suggest that perceived quality of technical services, such as HFA, may be influenced not only by the instructor's competence but also by institutional models. In this sense, understanding how users and instructors evaluate technical intervention becomes essential to promote standardized practices, aligned with the expectations of diverse target groups. Therefore, the present study aims to characterize the perceived quality of HFA services provided by instructors to users of a fitness chain in Portugal, and to compare both perspectives (instructors and users). Specifically, the study examines aspects directly associated with the instructor's intervention (e.g., concern for identifying clients' physical limitations). Understanding the possible discrepancies between the two perspectives may help define and implement strategies that improve professional performance and, consequently, overall service quality and users satisfaction, aligning it more closely with users' expectations, preferences, and needs.

MATERIAL AND METHODS

Participants

The study involved 148 users and 32 instructors from five gyms belonging to a fitness chain in Portugal. The users were aged between 18 and 80 years [Mean (M) ± Standard-deviation (SD) = 41.21 ± 13.55), with 106 females (71.62%) and 42 males (28.38%). As for the instructors, their ages ranged from 19 to 43 years (26.41 ± 6.44), with 13 females (40.63%) and 19 males (59.37%). The inclusion criteria were: for users – being at least 18 years old, attending one of the gyms at least once a week, and having undergone a HFA within the last month; for instructors – being at least 18 years old, working professionally in one of the clubs, and having at least one month of professional experience at the club. All participants (users and instructors) were informed about the study's objectives and signed a free and informed consent form. The study was approved by the Ethics Committee of the Polytechnic Institute of Coimbra (Portugal) (approval no. D40/2024).

Measures

To collect data, an ad hoc questionnaire was developed by the research group, in collaboration with the fitness chain. The initial version was adapted from Campos et al. (2016) questionnaire, incorporating 10 key items related to the perceived quality of HFA. The selection of items was discussed and refined through structured discussion panels with the fitness chain's management, technical directors and HFA instructors, ensuring contextual relevance and alignment with the study's objectives. Two versions were constructed: the perception version (Pv), applied to users, and the self-perception version (SPv), applied to instructors. After its initial construction in an online format, the questionnaire was submitted for review to a panel of two experts, both PhD in Sport Sciences with relevant research experience for a face-validity (Hill & Hill, 2008). Their feedback and suggestions were incorporated into a revised version, which was then reviewed by a second

panel of experts with similar qualifications. The final instrument included 10 items, rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree), as presented in Table 1.

Table 1. Assessed items in the HFA service.

1.	Timely contact to schedule the first assessment. (*Contact*)
2.	Ease of the scheduling process. (*Scheduling*)
3.	Instructor's punctuality for the assessment. (*Punctuality*)
4.	Instructor's concern about identifying users' physical limitations. (*Limitations*)
5.	Instructor's empathy during the assessment. (*Empathy*)
6.	Clear explanation of the data obtained by the instructor. (*Explanation*)
7.	Comparison of the results with normative values by the instructor. (*Comparison*)
8.	Definition of a plan by the instructor to help the user achieve their goals. (*Plan*)
9.	Instructor's demonstrated knowledge in the area of sport. (*Knowledge*)
10.	Usefulness of the ZAPPY app to schedule future assessments. (*App*)

The items were phrased according to the respondent's role. For example, item 1 in Pv was: "*I was contacted in a timely manner to schedule the first assessment*"; in SPv: "*The client was contacted in a timely manner to schedule the first assessment.*"

Procedures

To meet the study's objectives, a data collection protocol was established in coordination with the gym chain management, which was responsible for introducing the study and encouraging the participation of all instructors working at the five gyms. These instructors, in turn, promoted research among users during group classes, personal training sessions, and exercise room, reinforcing its relevance to improving service quality and better addressing user needs. Questionnaires were distributed via the Customer Relationship Management (CRM) software Salesforce, allowing the appropriate version (Pv or SPv) to be directed to each respondent type (user or instructor). Data collection occurred over approximately one month, from November 25 to December 20, 2024.

Analysis

Descriptive statistics (M and SD) were used for data characterization. To compare groups, Student's *t*-test was applied after verifying assumptions of normality and homogeneity (Marôco, 2021; Pestana & Gageiro, 2008). For samples under 30 participants, normality was assessed using the Shapiro-Wilk test (Pestana & Gageiro, 2008; Laureano, 2013; Marôco, 2021). When this assumption was not met, skewness analysis was used as an alternative (Pestana & Gageiro, 2008). The Levene test was employed to assess homogeneity of variances. Effect size (ES) was calculated using Cohen's d and classified according to O'Donoghue (2013): *small* ($d < .20$), *moderate* ($.20 \leq d < .80$), and *large* ($d \geq .80$). All analyses were conducted in SPSS (version 28), with the significance level set at 5% ($p < .05$).

RESULTS

The following section presents the results concerning the perceived quality of the HFA service, from the perspectives of users and instructors. A comparative summary of the 10 assessed items is presented in Table 2. In terms of descriptive statistics, users rated the highest items as follows: instructor's punctuality for the assessment (6.75 ± 0.89), concern about identifying the user's physical limitations (6.74 ± 0.74), demonstrated knowledge in the area of sport (6.72 ± 0.82), definition of a plan to achieve the user's goals (6.70 ± 0.89), and clear explanation of the data obtained by the instructor (6.66 ± 0.88). Instructor empathy

during the assessment also received a high rating (6.66 ± 1.10). Although still high within the 1-to-7 scale, the lowest-rated item among users was the usefulness of the ZAPPY app for scheduling future assessments (5.79 ± 1.57).

Among instructors, the highest-rated items were concerned about identifying users' physical limitations (6.71 ± 0.58), empathy during the assessment (6.65 ± 0.54), definition of a plan to help users achieve their goals (6.62 ± 0.60), and punctuality for the assessment (6.56 ± 0.71). The lowest-rated items were also the usefulness of the ZAPPY app (5.62 ± 1.40) and ease of the scheduling process (4.96 ± 1.42).

Statistically significant differences between users and instructors were found in three of the 10 evaluated items: timely contact for scheduling the first assessment (t = 2.185, p = .030, d = 0.426, *moderate* ES); ease of the scheduling process (t = 6.100, p = .001, d = 1.474, *large* ES); demonstrated knowledge in the area of sport (t = 2.387, p = .018, d = 0.465, *moderate* ES). Across all items, even when differences were not statistically significant, user ratings were consistently higher than instructors' self-assessments.

Table 2. Perceived quality of the HFA service (users vs. instructors).

Item	U	I	t	p	d
1. Contact	6.54 ± 1.16	6.06 ± 1.01	2.185	.030*	0.426
2. Scheduling	6.58 ± 1.01	4.96 ± 1.42	6.100	.001*	1.474
3. Punctuality	6.75 ± 0.89	6.56 ± 0.71	1.110	.268	0.216
4. Limitations	6.74 ± 0.74	6.71 ± 0.58	0.174	.862	0.034
5. Empathy	6.66 ± 1.02	6.65 ± 0.54	0.032	.975	0.006
6. Explanation	6.66 ± 0.88	6.43 ± 0.75	1.333	.184	0.260
7. Comparison	6.56 ± 1.10	6.34 ± 0.93	1.068	.287	0.208
8. Plan	6.70 ± 0.89	6.62 ± 0.60	0.466	.642	0.091
9. Knowledge	6.72 ± 0.82	6.34 ± 0.82	2.387	.018*	0.465
10. App	5.79 ± 1.57	5.62 ± 1.40	0.572	.568	0.111

*Note. *statistically significant at p < .05; U: Users; I: Instructors.*

DISCUSSION

The results of this study, which characterized and compared the perceived quality of HFA services among users and instructors from a fitness chain in Portugal, revealed some discrepancies between the two perspectives. Specifically, users consistently rated the quality of the HFA service more positively than the instructors themselves did. Rather than indicating a service failure, this difference may reflect a critical factor in users satisfaction: the alignment between service delivery and users' expectations and preferences. This finding reinforces prior literature highlighting perception gaps in fitness service contexts and their implications for personalized service (Franco et al., 2013).

The items rated most highly by both users and instructors included punctuality, concern with identifying the user's physical limitations, and the definition of a personalized plan to help achieve goals. These findings are consistent with existing research that emphasizes these variables as key determinants of user satisfaction and loyalty in fitness environments (Campos et al., 2020; Cardoso, 2022; Filingeri & Rieger, 2016; Gaspar, 2021). Punctuality (Campos et al., 2020), personalization (Cardoso, 2022; Filingeri & Rieger, 2016), and individual attention (Gaspar, 2021) are seen as essential factors for the consolidation and credibility of the fitness sector (EuropeActive & Deloitte, 2024).

The item that received the lowest average score from users was the usefulness of the ZAPPY app for scheduling future reassessments. It was also the second lowest for instructors. This is consistent with research pointing to challenges in adopting technology within fitness services (e.g., Ferreira-Barbosa et al., 2020b; Huang & Kim, 2023), particularly when digital tools are perceived as unintuitive or ineffective. These findings suggest that improving the user experience of digital systems used for scheduling may be a relevant point of intervention.

Among the 10 evaluated items, three revealed statistically significant differences in perception. The most pronounced discrepancy was found in the ease of the scheduling process, with instructors giving a significantly lower rating compared to users. Although this element is highly valued by users, it also reflects a logistical challenge for instructors and facilities. Ease of scheduling and service accessibility are critical to user satisfaction and retention (Ferreira-Barbosa et al., 2020a). Improving scheduling platforms may therefore serve not only users but also relieve operational burdens on instructors. Similarly, timely contact for scheduling the initial assessment showed a significant difference in perception. The lower score attributed by instructors compared to users may suggest communication bottlenecks or institutional constraints that hinder effective follow-up. It would be advisable for fitness centre management teams to examine and address such discrepancies from an operational and service design perspective. The other item with a significant difference between groups was the perceived level of sport-specific knowledge demonstrated by instructors. Users rated this higher than instructors did themselves. This may reflect a self-critical stance by instructors, a lack of confidence in communicating technical knowledge, or a mismatch between actual competence and its perception. Prior research has emphasized that technical competence, and the ability to communicate it clearly, are fundamental to perceived quality in fitness services (Campos et al., 2020), helping establish trust and professional credibility (Barbosa et al., 2023; Simões & Furtado, 2021).

Although the perception differences observed are significant, they may also reflect a natural tendency for instructors to adopt a more critical self-assessment. Such tendencies can be linked to high professional standards and an aspiration for continuous improvement, as suggested in the literature (García-Fernández et al., 2018; Heyward & Gibson, 2018). However, given the relatively young average age of the instructors in this sample (26.41 years), this self-critical view may also result from limited professional experience or a lack of confidence in their technical intervention.

It is important to emphasize that users' high ratings of aspects such as punctuality, concern for limitations, and empathy underscore the idea that service quality is not based solely on technical knowledge. Emotional and interpersonal aspects, such as empathy and personalized attention, are increasingly seen as key elements in enhancing client experience and motivation (Braga-Pereira et al., 2024, 2025; Campos et al., 2020; Ferreira-Barbosa et al., 2020a). These relational dimensions contribute to adherence, satisfaction, and long-term commitment to exercise programs (Teixeira, 2021; Zebre, 2022).

The results suggest that instructors tend to underestimate their perception of quality, which reinforces the importance of collecting more regular and systematic information, as it allows professionals to better align their self-perception with users' expectations, identify areas for improvement, and continuously enhance the quality of the services provided. Valuing aspects such as empathy, punctuality and individualized monitoring points to the need to strengthen relational and communication skills of professionals, in addition to technical skills. In this sense, continuous training assumes a strategic role that could be explored, not only in scientific updating, but also in improving the quality of professional intervention in sports and exercise areas (Pérez-Camarero et al., 2022).

CONCLUSIONS

This study allowed for the characterization and comparison of perceived quality in HFA services between users and instructors from a fitness chain in Portugal. Based on the results and discussion presented, the following key findings are highlighted:

a) Overall satisfaction with the HFA service: Both users and instructors assigned high ratings to key aspects, such as instructor punctuality, attention to users' physical limitations, technical knowledge, and the development of personalized exercise plans.
b) Discrepancy between users and instructors perceptions: Significant differences were identified in three of the 10 evaluated items. Instructors consistently rated the service lower than users did, revealing a more critical self-assessment. This discrepancy may stem from high professional standards or a tendency among instructors to underestimate their own knowledge and technical competencies.
c) Area for improvement in HFA service: The perceived usefulness of the ZAPPY app for scheduling reassessments received the lowest ratings from both groups. This suggests challenges in the implementation of mobile technologies within fitness settings, particularly concerning usability and perceived value. Improving the interface, offering better guidance on usage, or considering alternative digital tools may be necessary.
d) Importance of empathy and personalized attention: The results reinforce the notion that service quality is not determined solely by technical competencies but also by relational factors. Emotional engagement and individualized interaction between instructor and user play a critical role in enhancing the exercise experience and user motivation, which are essential for adherence and sustained participation.

In practical terms, this study emphasizes the need for continuous improvement of HFA services, particularly regarding scheduling processes and the integration of intuitive digital tools. Despite the overall positive evaluations, these findings point to relevant operational and pedagogical challenges that should be addressed.

Although the methodology was sound and rigorously applied, this study has limitations. The sample was limited to users and instructors from a single fitness chain in the central coastal region of Portugal, which restricts the generalizability of the results. Furthermore, the evaluation relied on a perception-based questionnaire, which may be subject to response biases. Future research should consider these limitations and aim to broaden the scope of data collection to include diverse fitness settings and mixed methods.

AUTHOR CONTRIBUTIONS

Conceptualization, F.C. and J.A.; methodology, F.C. and J.A.; data curation, F.C., D.A. and J.A.; writing - original draft preparation, D.A. and V.S.; writing - review and editing, S.F. and F.C.; supervision, F.C.; project administration, F.C. and J.A. All authors have read and agreed to the published version of the manuscript.

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No potential conflict of interest was reported by the authors.

REFERENCES

American College of Sports Medicine (2025). ACSM's guidelines for exercise testing and prescription. Wolters Kluwer Health.

Barbosa, J., Ferreira-Barbosa, H., Bento, P., & Loureiro, N. (2023). The impact of fitness instructor quality on customer satisfaction in fitness centres. In F. Moreno, A. Vilaplana & D. Camacho (Coords.), XIII Congreso Iberoamericano de Economía del Deporte. Los eventos deportivos: Impacto, turismo y tecnología (pp.183-186). Universitat de València.

Braga-Pereira, R., Furtado, G., Campos, F., Sampaio, A., & Teques, P. (2024). Impact of fitness coach behavior on exercise motivation, commitment, and enjoyment: A longitudinal study. PLOS ONE, 19(12), e0310931. https://doi.org/10.1371/journal.pone.0310931

Braga-Pereira, R., Furtado, G., Campos, F., Sampaio, A., & Teques, P. (2025). Enhancing exercisers' experience: A comprehensive review of insights from fitness instructors' behaviour and psychological impact. International Journal of Sport and Exercise Psychology, 1-22. https://doi.org/10.1080/1612197X.2024.2437480

Campos, F., Gomes, R., & Martins, F. (2023). A imagem do instrutor de atividades de grupo de fitness. Retos, 49, 525-531. https://doi.org/10.47197/retos.v49.98954

Campos, F., Martins, F., Gomes, R., Zylberberg, T., Mendes, S., & Damásio, A. (2021). Importância atribuída no fitness segundo o rendimento líquido mensal. Retos, 40, 336-343. https://doi.org/10.47197/retos.v1i40.81957

Campos, F., Simões, V., & Franco, S. (2016). A qualidade em atividades de grupo de fitness: Construção e validação do questionário "Qualidade do Instrutor de Fitness - Atividades de Grupo" (QIF-AG). Revista Psicologia, 30(1), 37-48. https://doi.org/10.17575/rpsicol.v30i1.1069

Campos, F., Simões, V., & Franco, S. (2017). Qualidade do comportamento do instrutor em atividades de grupo de fitness. Revista Iberoamericana de Psicología del Ejercicio y el Deporte, 12(2), 249-259.

Campos, F., Simões, V., & Franco, S. (2020). A qualidade do instrutor em atividades de grupo de fitness. In S. Franco & V. Simões (Eds.), Pedagogia do fitness - Contributos para a intervenção dos profissionais (pp. 7-29). Omniserviços.

Cardoso, P. (2022). Metodologia do treino personalizado. In C. Olim, H. Zebre, & R. Gonçalves (Eds.), Manual do técnico especialista em exercício físico (pp. 297-323). Omniserviços.

Dias, C., Ferreira, A., Pereira, A., & Fonseca, A. (2019). Examining the relationship between perceived service quality, satisfaction, and renewal intention in Portuguese fitness centers. Revista de Psicología del Deporte, 28(2), 49-58.

Dias, I., Franco, S., Ramos, L., & Simões, V. (2020). Desenvolvimento e validação do Sistema de Observação do Clima de Aula em Aulas de Grupo de Fitness - aplicação piloto em idosos. Cuadernos de Psicología del Deporte, 20(2), 112-127. https://doi.org/10.6018/cpd.382331

Eskiler, E., & Safak, F. (2022). Effect of customer experience quality on loyalty in fitness services. Physical Culture and Sport. Studies and Research, 94, 21-34. https://doi.org/10.2478/pcssr-2022-0003

Estrada-Marcén, N., Sanz-Gonzalo, G., Simón-Grima, J., Casterad-Seral, J., & Roso-Moliner, A. (2019). The fitness centres of the city of Zaragoza. Apunts Educación Física y Deportes, 35(135), 118-136. https://doi.org/10.5672/apunts.2014-0983.es.(2019/1).135.08

EuropeActive (2023). Personal Trainer (EQF Level 4) - EuropeActive Occupational Standards. EuropeActive.

EuropeActive & Deloitte (2024). European Health & Fitness Market. Report 2024. EuropeActive.

Ferreira-Barbosa, H., Barbosa, J., Sabino, B., & Loureiro, V. (2020a). Determinants of service quality influencing customer satisfaction in fitness centers: A systematic review. European Journal of Human Movement, 49, 29-54. https://doi.org/10.21134/eurjhm.2022.49.3

Ferreira-Barbosa, H., García-Fernandez, J., & Carrión, G. C. (2020b). The influence of technologies on members' retention by gyms: A systematic review. Movimento, 26, e26070. https://doi.org/10.22456/1982-8918.100316

Filingeri, D., & Rieger, T. (2016). Planning a personal training session. In T. Rieger, B. Jones, & A. Jiménez (Eds.), Europeactive's essentials for personal trainers (pp. 25-36). Human Kinetics.

Franco, S., Santos-Rocha, R., Ramalho, F., Simões, V., Vieira, I., & Ramos, L. (2021). Tendências do fitness em Portugal para 2021. Cuadernos de Psicología Del Deporte, 21(2), 242-258. https://doi.org/10.6018/cpd.467381

Franco, S., Santos-Rocha, R., Ramalho, F., Simões, V., Vieira, I., & Ramos, L. (2022). Tendências do fitness em Portugal para 2022. Motricidade, 18(1), 61-72. https://doi.org/10.6063/motricidade.25847

Franco, S., Santos-Rocha, R., Simões, V., Ramalho, F., Vieira, I., & Ramos, L. (2023). Tendências do Fitness em Portugal para 2023. Retos, 48, 401-412. https://doi.org/10.47197/retos.v48.97094

Franco, S., Simões, V., Castañer, M., Rodrigues, J., & Anguera, M. (2013). La conducta de los instructores de fitness: Triangulación entre la percepción de los practicantes, auto-percepción de los instructores y conducta observada. Revista de Psicología del Deporte, 22(2), 321-329.

Franco, S., Simões, V., Santos-Rocha, R., Vieira, I., Ramalho, F., & Ramos, L. (2024). Tendências do fitness em Portugal para 2024. Retos, 57, 88-100. https://doi.org/10.47197/retos.v57.105198

Franco, S., Ramos, L., Santos-Rocha, R., Ramalho, F., Vieira, I., & Simões, V. (2025). Tendências do Fitness em Portugal para 2025. Retos, 69, 45-61. https://doi.org/10.47197/retos.v69.112240

Franco, S., Rodrigues, J., & Castañer, M. (2012). Case Study 6.3: The behaviour of fitness instructors and the preferences and satisfaction levels of users. In O. Camerino, M. Castañer, & M. T. Anguera (Eds.), Mixed methods research in the movement sciences (pp. 202-214). Routledge.

García-Fernández, J., Gálvez-Ruíz, P., Fernández-Gavira, J., Vélez-Colón, L., Pitts, B., & Bernal-García, A. (2018). The effects of service convenience and perceived quality on perceived value, satisfaction and loyalty in low-cost fitness centers. Sport Management Review, 21(3), 250-262. https://doi.org/10.1016/j.smr.2017.07.003

Gaspar, C. (2021). Metodologia das atividades de grupo. In D. Teixeira, P. Marques, & C. Gaspar (Eds.), Manual do técnico de exercício físico (pp. 253-292). MANZ.

Glaveli, N., Papadimitriou, D., Karagiorgos, T., & Alexandris, T. (2021). Exploring the role of fitness instructors' interaction quality skills in building customer trust in the service provider and customer satisfaction. European Sport Management Quarterly, 23(2), 1-22. https://doi.org/10.1080/16184742.2021.1928256

Gonçalves, C., & Diniz, A. (2015). Analysis of member retention in fitness through satisfaction, attributes perception, expectations and well-being. Revista Portuguesa de Marketing, 18(34), 65-76.

Heyward, V., & Gibson, A. (2018). Advanced fitness assessment and exercise prescription. Human Kinetics.

Hill, M., & Hill, A. (2008) Investigação por questionário. Edições Sílabo.

Huang, Y., & Kim, D. (2023). How does service quality improve consumer loyalty in sports fitness centers? The moderating role of sport involvement. Sustainability, 15, 12840. https://doi.org/10.3390/su151712840

Laureano, R. (2013). Testes de hipóteses com o SPSS: O meu manual de consulta rápida. Sílabo.

Luís, T., Simões, V., Ramos, L., & Franco, S. (2021) Desenvolvimento, validação e aplicação piloto do Sistema de Observação da Instrução do Instrutor de Fitness em aulas de Pilates. Cuadernos de Psicología del Deporte, 21(1), 225-241. https://doi.org/10.6018/cpd.382381

Marôco, J. (2021). Análise estatística com o SPSS statistics. Report Number.

Newsome, A., Batrakoulis, A., Camhi, S., McAvoy, C., Sansone, J., & Reed, R. (2024). 2025 ACSM worldwide fitness trends: Future directions of the health and fitness industry. ACSM's Health & Fitness Journal, 28(6), 11-25. https://doi.org/10.1249/FIT.0000000000001017

O'Donoghue, P. (2013). Statistics for sport and exercise studies: An introduction. Routledge.

Ortega-Martínez, J., Martins, F., González-Víllora, S., & Campos, F. (2021). Estudio sobre la calidad percibida de usuarios de fitness, a partir de sus características y preferencias según sexo y edad. Retos, 39, 477-482. https://doi.org/10.47197/retos.v0i39.80061

Pedragosa, V., Ferreira, A. (2025). Fitness Barometer in Portugal for 2024. PORTUGAL ACTIVO.

Pérez-Camarero, J., Martínez-Gallego, R., Guzmán, J. F., & Crespo, M. (2022). Online training of sports coaches: Bibliographic review. Apunts Educación Física y Deportes, 147, 26-35. https://doi.org/10.5672/apunts.2014-0983.es.(2022/1).147.03

Pestana, M., & Gageiro, J. (2008). Análise de dados para ciências sociais. A complementaridade do SPSS. Sílabo.

Pimenta, N., Jones, S., & Jones, B. (2016). Health and fitness assessment. In T. Rieger, B. Jones, & A. Jiménez (Eds.), Europeactive's essentials for personal trainers (pp. 161-188). Human Kinetics.

Santos, R., Sousa, S., Simões, V., Franco, S., Martins, F., Damásio, A., & Campos, F. (2021). Importância atribuída aos motivos de prática, qualidade dos serviços e qualidade dos instrutores. In F. Campos, R. Melo, & R. Mendes (Eds.), Fitness e atividades de ginásio. Guia para profissionais (pp. 323-330). LIDEL.

Silva, A., Brás, D., Almeida, H., & Máximo, O. (2022). Metodologia das atividades de grupo. In C. Olim, H. Zebre, & R. Gonçalves (Eds.), Manual do técnico especialista em exercício físico (pp. 351-367). Omniserviços.

Simões, M., & Furtado, G. (2021). Avaliação, prescrição e wearable technology. In F. Campos, R. Melo & R. Mendes (Coords.), Fitness e atividades de ginásio. Guia para profissionais (pp. 63-72). LIDEL.

Simões, V., Rodrigues, J., Ramos, L., Alves, S., & Franco, S. (2023). Desenvolvimento, validação e aplicação piloto do Sistema de Observação de Feedback de Instrutores de Fitness em Aulas de Grupo (SOFIF-AGF). Cuadernos de Psicología del Deporte, 23(3), 206-225. https://doi.org/10.6018/cpd.560631

Teixeira, D. (2021). Avaliação e prescrição de exercício. In D. Teixeira, P. Marques, & C. Gaspar (Eds.), Manual do técnico de exercício físico (pp. 99-130). MANZ.

Xu, K., Chen, K., Kim, E., García-Fernández, J., Nauright, J., & Zhang, J. (2021). Dimensions of service quality in health-fitness clubs in China. International Journal of Environmental Research and Public Health, 18, 10567. https://doi.org/10.3390/ijerph182010567

Zebre, H. (2022). Avaliação e prescrição de exercício. In C. Olim, H. Zebre, & R. Gonçalves (Eds.), Manual do técnico especialista em exercício físico (pp. 255-278). Omniserviços.

