An analysis of new social fitness activities: Loyalty in female and male CrossFit users.

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CrossFit is a type of high intensity functional exercise program in which a type of philosophy of life and competitive sport take place together. This product is created for all kinds of people and interrelates with a diversity of social practices. In this sense, we are interested in understanding the behavior of the people who practice it and the factors that influence one's fidelity towards these activities. So, this work aims to analyze the relationships between customer engagement, perceived value, satisfaction, and future intentions in CrossFit users as well as the significance of this activity for the person. The study engaged 520 participants with an online questionnaire. A confirmatory factor analysis and multi-group analysis was performed to test the difference between two invariance models. The findings show positive relationships between customer engagement and perceived value in women, and between perceived value, satisfaction and fidelity in men.

Keywords: CrossFit; Social fitness; Loyalty; Engagement; Users

Introduction

The Special Eurobarometer of Sport and Physical Activity states that the proportion of those who say that they do sports increased from 42% to 46% from 2013 to 2016 in all Europe (European Commission 2018). These data confirm the gradual trend that has existed since 2009. In this vein, Smith and Westerbeek (2010) declare that increasing the sports participation of people who did not carry out physical activities before influences an increase in more active citizens. Moreover, practicing physical activity not only improves people's quality of life, it also contributes to socializing, facilitating integration into groups and strengthening human ties (Scheerder, Pauwels, and Vanreusel 2003). As a matter of fact, physical sports such as CrossFit have achieved this challenge, thus influencing a more active society. Indeed, IHRSA (2016b) and Claudino et al. (2018) highlight the global increase of this activity and how sports

installations have included it to reach a greater number and different typologies of users. Thus, it would perhaps be beneficial to analyze the factors which could foster a greater participation in these sports activities that would have an impact on an increase in social relations, on a lasting participation and, in brief, on an increase of loyalty of the users of the sports centers which offer them. Among the factors that could influence this aspect is customer engagement. Prahalad and Ramaswamy (2004) state that committed customers can generate more references of the services which they consume, creating service value and contributing to consumers being more loyal to the organization. In fact, Kumar and Pansari (2016) state that customer engagement is shown in purchasing and reference to a brand, as well as sharing brand experience and improving the brand products through contributing to the brand community and giving feedback.

Most of the extant literature concerning customer engagement has been dedicated to conceptualizing, delineating and identifying the dimensionality of the term. So, existing works are oriented toward the analysis of the consequences of customer engagement (Pansani and Kumar 2017). Likewise, Yoshida et al. (2014) maintain that customer engagement gathers together consumers' non-transactional behaviors, being useful to explain how consumers and firms create new value propositions in non-transactional exchanges between buyers and sellers. It therefore creates positive social atmospheres between an organization and its consumers. Nevertheless, though different studies have been done about the conceptualization and theorization concerning customer engagement, Vivek et al. (2014) suggest that more empirical studies to examine its influence on other variables, positioning perceived value and satisfaction as consequences of customer engagement are needed (Brodie et al. 2013; Hollebeek 2013). In the same way, these variables could become positive antecedents of behavioral intention and, consequently, of the consumer's loyalty (Kim, Kim, and Wachter 2013).

Based on these comments, the aim of this work is to analyze the relations between customer engagement, perceived value, satisfaction and future intentions in CrossFit users. Additionally, taking into account that at times the relations between predictor variables of loyalty differ between men and women (García-Fernández et al. 2017), the analysis of these relations is considered according to sex.

This study is important due to the growth in new fitness activities, a rising sector (IHRSA 2018). Precisely, there is a gap in the knowledge of how engagement can influence customer loyalty in these new sports-physical activities which society demands. Accordingly, this article is built on a theoretical foundation about CrossFit and its characteristics and what the relations are between customer engagement, perceived value, satisfaction and future intentions. Later, we will carry out a justification of the methodology with a description of the participants, as well as the instrument and the procedure used, concluding by presenting the findings and the implications of the research.

New forms of social sports: CrossFit activities

CrossFit may be one of the most swiftly growing functional training disciplines (Claudino et al. 2018). This is not coincidental, as the fitness sector is being continuously updated and new models of specialized gyms are therefore emerging. Unique sports experiences are offered operating under the boutique model integrated into CrossFit (Henderson 2016). For example, in the USA market, CrossFit has increased by up to 70% in the last decade, becoming one of the most practiced activities in fitness centers (IHRSA 2016a). This product is created for all kinds of people, irrespective of their experience and level of physical condition. Indeed, Veiga, Valcarce, and King (2017) stated that it was one of the fitness trends in Spain, considering Spain as one of the top ten global references in number of customers, billing and number of

sports installations (IHRSA 2018).

The characteristics of CrossFit as a sports modality seek the improvement of physical condition through working cardiovascular resistance, strength, flexibility, coordination and balance (Glassman 2007). In turn, the exercises are carried out with great intensity, repeatedly and leaving little time for rest between each of the series, always looking for functional variants which enable the musculature to be efficiently mobilized (Sprey et al. 2016).

The CrossFit philosophy in itself is very simple: eating well and recreating a closed environment of natural human exercises, such as rowing, lifting weights, running or climbing. This is appropriately summarized in the motto of the founder Greg Glassman, CrossFit in 100 words: "eat meat and vegetables, nuts and seeds, some fruit, little starch and no sugar. Keep intake to levels that will support exercise but not body fat. Practice and train major lifts: deadlift, clean, squat, presses, clean-and-jerk and snatch. Similarly, master the basics of gymnastics: pull-ups, dips, rope climbs, push-ups, sit-ups, presses to handstands, pirouettes, flips, splits, and holds. Bike, run, swim, row, etc., hard and fast. Five or six days per week, mix these elements in as many combinations and patterns as creativity will allow. Routine is the enemy. Keep workouts short and intense. Regularly learn and play new sports" (Glassman 2002).

One the success factors of CrossFit may be that the high intensity training does not last long and its results can be noted in the short term. On the other hand, this contrasts with the possible risks for health that have been observed in centers (Meyer, Morrison, and Zuniga 2017). Their owners have little experience and propose a training model without taking into account the effects that this may have on each kind of customer.

Also, the broad acceptance by users could lie in CrossFit having known how to systematize all its exercises in one training method. According to CrossFit (2018), it currently has more than 13,000 affiliated members and 4,000,000 customers in more than 142 countries. Though the sports installations where it is practiced are personalized in accordance with the space and the geographical location, there are great similarities between them. This means that a customer who migrates to another center feels welcomed and understands the cultural and sports keys which are offered.

The CrossFit model functions as a registered trademark. The owners of the fitness centers pay about 3,000 euros for the rights to use the name and for the logotype. CrossFit offers training for the instructors upon an extra payment. Yet a certain prior experience is required to work with this sports activity model - it might not work with novice owners (Aronowitz 2018).

Nevertheless, CrossFit is much more than a type of functional training that has gender equality - as there are no differences between the sort of activities that men and women carry out (Knapp 2015). Since its creation in 2001 by Greg Glassman, it has been associated with an integral form of caring for oneself and behaving, having a series of rituals associated with it that almost convert it into a spiritual itinerary, making it a new type of 21st. century religion (Wheaton 2013). Authors such as Ornella (2017) state that the centers, or boxes, where CrossFit takes place are places that interrelate business opportunities, religious and sacramental practices, advertising and consumption practice, and which, from a more extreme perspective, become spaces of body cult. In this vein, it is common to come across, especially in the United States, Christian communities that find in CrossFit a meeting place that, in a certain way, is similar to that of its churches (Hodges 2013). This is a religion that, on the other hand, due to its price is not within everyone's reach, but rather it is for a minority who often sacrifice

their purse for their integral wellbeing. The people who go to these spaces tend to be middle-class professionals with available free time (Nash 2018; Smith 2008). Likewise, Aronowitz (2018) indicated that with this sports practice and because of being looked after individually, the user feels recognized, important, and successful.

This is only possible where customers live out unique experiences in which they feel that their money is being well invested through personal care, motivation strategies, and a group and tribal feeling. According to O'Rourke (2015), the aim of these experiences is to produce in the customer the sensation that they want to return; customers are not only paying to practice sport but to be with their peers. Moreover, these are disciplines which are so specific that the customers frequently share their own philosophy of life, regularly comparing it with a spiritual experience like going to a church service (Heller 2015).

This tribal sense is especially interesting in helping to understand the social meaning that this activity has for people. They find in this form of fitness consumption not only physical improvements, but also the recognition of the group of peers itself. This is likely the factor which results in this fitness sector having exponentially increased its number of members since its origin.

There have to be diverse factors to produce the tribal effect, among which feelings and emotions stand out (Cova 1997). These are produced largely by the quantity of rites which initiates carry out (Cova 1997; Pekkanen, Närvänen, and Tuominen 2017): the formulas of language used, the space where it is performed and the elements used stand out (Pekkanen, Närvänen, and Tuominen 2017).

Regarding language, those practicing CrossFit with a greater knowledge about it have a stronger status within the group (Schau, Muñiz, and Arnould 2009), stories even being created about other people in the tribe who become models to imitate (Muñiz and

Schau 2005). For the tribe the space, the box, becomes their temple, where they experience their own sports spirituality, the body being what limits the development of their superpowers, for this reason often being the enemy to beat for many of the athletes. They see the greatest barrier to their transcendence in themselves. Finally, there are emotional elements, especially in the search that they carry out in their comfort space, the box, and their peers. Here is where they find themselves understood, as to train and continually improve demands and sacrifices that those outside their contexts often cannot understand (O'Reilly 2012).

According to Henderson (2016), for CrossFit to work, customers must feel that they are part of a group that welcomes them. So, the people who practice it are called athletes, probably due to its sports origin, this being closer to athletics than traditional fitness center disciplines. In fact, the people who do it feel so identified and aware of their belonging to a group that when they do not go, they consider that the group could be worried by their lack of attendance. Following Henderson (2016), the very setting of the spaces, which due to their refinement and the atmosphere that is created in them are called cults, means that the customers feel responsible for carrying out their exercises appropriately in order to be at the level of themselves and of their peers. As has been indicated, this is a select atmosphere which only permits the minority of the population who have a high purchasing power and, often, higher education.

Due to all this, for those who do CrossFit to continue this activity and to therefore have a positive behavior toward the box in which they practice, not only must that tribal feeling be created, they must also positively perceive a series of factors for them to finally become committed and loyal CrossFit consumers. This will bring about not only healthier consumers who practice this activity (Meyer, Morrison, and Zuniga 2017), but more profitable CrossFit centers (Reichheld, Markey, and Hopton 2000).

Customer engagement, perceived value, and satisfaction in sports activities

According to Gill, Sridhar, and Grewal (2017), in places where CrossFit is practiced, the firms aim to improve their relations with their customers to boost engagement and to facilitate firm-customer interactions or interactions among customers. The primary goal is to foster an emotional and psychological bond between customers and the firm (Kumar and Pansari 2016). This fact gives rise to thinking that customer engagement and its development in the box of CrossFit could influence the consumer's behavior and hence the intentions to continue going to the sports installation. Prentice and Correia (2018) state that customer engagement generally has a behavioral focus and that this refers to a customer's behavioral manifestations toward a brand or firm. In fact, authors such as Hollebeek (2011) state that the positive effects of engagement can be translated into producing greater loyalty, trust, and commitment.

Customer engagement has been analyzed in different disciplines, among which stand out management (Prentice and Correia 2018), education (Lutz, Guthrie, and Davis 2006), tourism (Harrigan et al. 2017), and psychology (Hallberg and Schaufeli 2006). Thus, different meanings have been created depending on the context. Pansani and Kumar (2017) state that in the business world it has been used as a contract, in the management literature as an organizational activity with the internal stakeholders, and in the marketing literature as a customer activity toward the firm, termed customer engagement. For this reason, different conceptualizations have been created depending on the context and, consequently, the needs of each discipline. Among them, Van Doorn et al. (2010) define it as "behaviors which go beyond transactions and are defined as a customer's behavioral manifestations that have a brand or firm focus, beyond purchase, resulting from motivation drivers" (p. 254). Later, Brodie et al. (2011) stated that it is "a psychological state that occurs by virtue of interactive, cocreative customer experiences

with a focal agent/object in focal service relationships" (p. 260), or "who interact with the brand without necessarily purchasing it or planning on purchasing it, or on events and activities engaged in by the consumer that are not directly related to search, alternative evaluation, and decision making involving brand choice" (Vivek, Beatty, and Morgan 2012, 127). Finally, Pansari and Kumar (2017, 295) summarize the definition of customer engagement as "the mechanics of a customer's value addition to the firm, either through direct or/and indirect contribution".

Customer engagement has also been conceptualized and delineated in the sports literature. Particularly, Yoshida et al. (2014, 403) establish that in the sports context fan engagement is a specific form of customer engagement, defining it as "sport consumer's extra-role behaviors in nontransactional exchanges to benefit his or her favorite sport team, the team's management, and other fans". Also, Santos et al. (2018, 4) state that "fan engagement is framed as an extra-role in non-transactional behaviours, and refers to the fan experiences with the team, the value co-creation stimulated by the team and the relationship shared with fans of the same team within the online context".

These definitions showcase the importance that this concept has acquired. Nonetheless, although it has been analyzed in the sports context (e.g., Alonso-Dos-Santos et al. 2018; Yoshida et al. 2014), it has not been analyzed until now in those who use fitness services and who, as a result, have characteristics which are different from those of sports spectators (García-Fernández et al. 2018a).

Referring to how this is made up, according to Harrigan et al. (2017), a recent analysis of the customer engagement dimensionality concluded that customer engagement is a multi-dimensional construct consisting of three dimensions: cognitive (customer focus and interest in a particular brand), emotional (feelings of inspiration or pride caused by a particular brand), and behavioral (customer effort and energy

necessary for interaction with a particular brand). Indeed, Dovaliene, Masiulyte, and Piligrimiene (2015) declared that most authors had manifested that the concept is summarized in three dimensions.

In the same way, the importance acquired and analyzed by this concept in the literature is determined not only by how it must be developed or its antecedents (e.g., Alonso-Dos-Santos et al. 2018), but how it is achieved when it is correctly boosted and/or what its consequences are (e.g., Santos et al. 2018). Specifically, Van Doorn et al. (2010) state that high levels of customer engagement motivate a greater repeat purchase and a higher consumption. Similarly, Yoshida et al. (2014) show in their work on fan engagement that the purchase intention of sports consumers is influenced by the dimensions of the engagement and other predictor variables. In the same way, Santos et al. (2018) have found how fan engagement through social networking sites is significantly related with behavioral intentions both offline and online.

However, although the relation between customer engagement and behavioral intentions or loyalty is upheld by the literature, this could be mediated by other variables. Precisely, Higgins and Scholer (2009) propose that customer engagement directly influences perceived value and that it is defined as "a consumer's overall assessment of the utility of a product/service based on perceptions of what is received and what is given" (Zeithaml, 1988, 14), which represents a specific ratio/trade-off between quality and price; that is, a value-for-money conceptualization (Sweeney and Soutar 2001). Thus, Brodie et al. (2013) state that customer engagement driven by particular circumstances leads to higher perceived customer value and better satisfaction. Likewise, Hollebeek (2013) also considers that the perceived value and customer satisfaction are consequences of customer engagement, as Dovaliene, Masiulyte, and Piligrimiene (2015) have proven with mobile applications.

In turn, perceived value is recognized as one of the antecedents of customer satisfaction. Though this relation could arise in a contrary manner, researchers have offered greater support for the relation being between perceived value and customer satisfaction (Cronin, Brady, and Hult 2000). Indeed, different works in the fitness sector highlight this relation in Greek sports installations (Theodorakis et al. 2014) and Spanish ones (García-Fernández et al. 2018a). Also, Pitts and Stotlar (2013) state that perceived value influences behavioral intentions. This fact is confirmed in the work of Calabuig-Moreno et al. (2014), where it is shown that perceived value is a clear and direct antecedent of consumer loyalty. On the contrary, the same does not occur in the work of García-Fernández et al. (2018b), which analyzes consumers in low-cost fitness centers. These were compared with consumers of public sports centers, giving rise to a positive relation in the model developed in public sports services but not in the low-cost centers. Similarly, García-Fernández et al. (2017) showed that this relation was not positive either in men or women. Finally, to fulfill the relations between the variables, satisfaction has been recognized as one of the most decisive antecedents in behavioral intentions (Trail, Anderson, and Fink 2005). Specifically, the research of Theodorakis et al. (2014) and Avourdiadou and Theodorakis (2014) have shown this positive relation in fitness centers.

The literature examined shows different researchers and models which have examined the customer engagement, perceived value, satisfaction and future intentions relations. However, these relations have not been carried out in centers which offer CrossFit, so the literature could be improved with this research and the management professionals of these installations could also benefit from it. Based on the literature review, we developed the following five hypotheses:

Hypothesis 1. There is a direct and positive relationship between customer engagement and the perceived value in CrossFit users.

Hypothesis 2. There is a direct and positive relationship between customer engagement and satisfaction in CrossFit users.

Hypothesis 3. There is a direct and positive relationship between perceived value and satisfaction in CrossFit users.

Hypothesis 4. There is a direct and positive relationship between perceived value and future intentions in CrossFit users.

Hypothesis 5. There is a direct and positive relationship between satisfaction and future intentions in CrossFit users.

Materials and methods

Participants and procedure

Valcarce, Cordero, and García-Fernández (2017) stated that in Spain the number of CrossFit centers has increased from four in 2010 to 305 in 2017 under the Boutique model. Currently, in Spain, there are 436 centers specialized in and certified by the CrossFit brand (CrossFit 2018). For this study we contacted one hundred centers located in different cities and regions throughout Spain. We indicated the aims of the study as well as the information collection procedure and analysis. After explaining this, of the 25 centers interested, 17 took part. This enabled access to the opinions and behaviors of their users. Once the data collection of the customers had been accepted, the researchers sent a link with the questionnaire to every person in charge of each installation. They had to send it to their customer databases. This data collection process lasted three months and various reminders were sent to achieve a larger sample. In the end 184 women and 336 men participated (n = 520). 27.1% (n = 141) had never been in a sports

installation. 3.3% (n = 17) were under 20 years old, 31.2% (n = 162) aged between 21 and 30, 48.3% (n = 251) between 31 and 40, 15.4% (n = 80) between 41 and 50, and 1.9% (n = 10) over 50. 37.1% (n = 193) had been enrolled less than six months, 16% (n = 83) between six and 12 months, 22.3% (n = 116) between 1 and 2 years, and 24.6% (n = 128) more than two years. As to the weekly frequency of participation in the center, 26.3% (n = 137) attended up to twice a week, 36% (n = 187) three times, 19.1% (n = 102) four times, and 18.1% (n = 94) more than four times.

Instruments and data analyses

We used an online questionnaire which contained sociodemographic and subjective behavior questions. Specifically, for customer engagement we used Vivek et al. (2014) scale, made up of 15 items. In turn, this scale was divided into three subscales. Conscious attention had a total of six items (e.g., "I like to know more about this CrossFit center"; "I like to learn more about this CrossFit center"), enthused participation six items (e.g., "I am heavily into this CrossFit center"; "I am passionate about this CrossFit center"), and social connection three items (e.g., "I love this CrossFit center with my friends"; "I enjoy this CrossFit center more when I am with others"). Perceived value was measured with two items extracted from Zeithaml (1988) (e.g., "The programs and services of this CrossFit center deserve what they cost"). Customer satisfaction (e.g., "I am pleased to have taken the decision to become a member of this CrossFit center"; "I am satisfied with the services of this CrossFit center") and future behavioral intentions (e.g., "If you ask me, I will recommend this CrossFit center"; "I would sign up for this CrossFit center if I unsubscribed") were measured by three items for each variable. For customer satisfaction we used the scale proposed by Oliver (1997) and Cronin, Brady, and Hult (2000), for future intentions we used an adaption of Zeithaml, Berry, and Parasuraman (1996). In all the cases, these

scales have been used in other studies on sports consumers (e.g., Avourdiadou and Theodorakis 2014; Calabuig-Moreno et al. 2014; García-Fernández et al. 2018b). All the scales were measured with a Likert-type scale where 1 was totally disagree and 7 totally agree. For the adaptation of the scales to Spanish, we carried out the back-translation techniques indicated by Brislin (1970) and Hambleton (1994).

The data were analyzed using SPSS and AMOS 21.0 (SPSS An IBM Company, Chicago, IL). First, confirmatory factor analysis (CFA) was used to evaluate the structure of the measurement model proposed in each group (male and female). The internal consistency of the constructs was measured through composite reliability (Hair et al. 2009). Having tested the structure of the model, a descriptive analysis for each dimension was conducted and the two-sample *t* test was used to compare the groups, also testing the effect size (Cohen 1988). Convergent validity was evaluated through the average variance extracted (AVE), while discriminant validity was established when the AVE for each construct exceeded the squared correlations between that construct and any other (Fornell and Larcker 1981).

The adequacy of the model was analyzed based on a set of fit indexes using the maximum likelihood method. The goodness of fit indexes were assessed with the ratio of chi-square to its degrees of freedom (χ^2/df), CFI (*comparative fit index*), IFI (*incremental fit index*), TLI (*Tucker-Lewis Index*) and RMSEA (*root mean square error of approximation*). An appropriate adjustment is considered when values are less than five for chi-square and degrees of freedom (Bentler 2002), above .90 for the CFI, IFI, and TLI indexes (Hair et al. 2009; MacCallum and Austin 2000), and equal or inferior to .08 for RMSEA (Arbuckle 2008; Byrne 2001).

Results

Measurement model for CrossFit center

The confirmatory factor analysis was conducted for each group with the purpose of testing the psychometric properties. The measurement model for the male group as well as the female group indicate an acceptable adjustment in the indexes considered (Table 1). The χ^2/df value was situated below the minimum acceptable value of 5.0 for both groups, although this indicator has been shown to be sensitive to the sample size (Hair et al. 2009). The CFI, IFI and TLI values in both groups were greater than the minimum recommended threshold of .90. The RMSEA index offered a good adjustment, obtaining an index of .08 for both groups, this being satisfactory evidence of proportional adjustment.

*Please, insert Table 1 about here *

As shown in Table 2 all items showed high factor loadings (above .50; Hair et al. 2009), ranging from .769 to .974 for the male group and from .771 to .990 for the female group, indicating that each item is appropriately captured in its respective factor. The composite reliability values exceeded .70 (Bagozzi and Yi 1998; Hair et al. 2009) in each of the constructs of both groups. The average variance ranged between .50 and .93 for the male group and between .61 and .96 for the female group, values greater than the recommended standard of .50, indicating adequate convergent validity (Fornell and Larcker 1981) (Table 2).

*Please, insert Table 2 about here *

The mean scores of each dimension are in general terms superior in the male group (Table 3). The highest valuation was found in *future intentions* in both groups (male: $M = 4.62$, $SD = .71$; female: $M = 4.51$, $SD = .85$). Yet, the lowest valuation was obtained in *engagement2* in both groups (male: $M = 3.83$, $SD = .87$; female: $M = 3.67$, $SD = 1.01$), although in the two groups the three dimensions of engagement were those of the least average valuation. The *t* test was used to test for mean differences with

regards to the type of center, without significant differences being obtained in any dimension and with a very low size effect in all the cases.

*Please, insert Table 3 about here *

To test for discriminant validity, we examined the average variance extracted (AVE) and compared the square root of the AVE (i.e., the diagonal in Table 4) with the correlations between the constructs (i.e., the off-diagonal values in Table 4). The square root of the AVE in all the constructs exceeds the value of .50 and each is greater than the correlation between the constructs. In order to demonstrate discriminant validity, the diagonal values should be greater than the off-diagonal values (Fornell and Larcker 1981).

*Please, insert Table 4 about here *

Structural model for CrossFit center

The structural model test includes an evaluation for the adjustment of each group, as well as the relationships of the latent constructs. The adjustment of the models was acceptable for the male group [$\chi^2(216) = 695.07$ ($p<.001$); $\chi^2/gl = 3.21$; CFI = .94; IFI = .94; TLI = .92; RMSEA = .08 (CI = .075, .089)] as well as for the female group [$\chi^2(216) = 504.72$ ($p<.001$); $\chi^2/gl = 2.33$; CFI = .95; IFI = .95; TLI = .94; RMSEA = .08 (CI = .074, .093)]. The coefficients for each model are shown in Table 5.

*Please, insert Table 5 about here *

When analyzing the influence of the relations, customer engagement does not predict satisfaction (male: $\beta = .017$; $p = .736$; female: $\beta = .099$; $p = .190$). However, the relation obtained concerning value perception is shown positively and significantly in both sexes, the same as took place in the relation between perceived value and satisfaction, where the β value obtained was very high and similar in men and women (men: $\beta = .880$; women: $\beta = .841$). Satisfaction was shown as a strong predictor of

future intention, slightly greater in men (β = .986; p < .001) than in women (β = .812; p < .001), the same as occurred with the previous relation (perceived value – satisfaction). Lastly, perceived value shows a significant relation with future intention in the group of women (β = .171; p = .022), being not significant and negative in the case of the men (β = -.066; p < .391).

*Please, insert Figure 1 about here *

Discussion

This work explored the relation between customer engagement and perceived value, satisfaction, and future intentions according to the sex of consumers of CrossFit sports services. In this way, the analysis of the engagement in this sports service is interesting as it has been one of those which has most grown at a global level in recent years (IHRSA 2016a), creating in turn a series of tribal connotations (Pekkanen, Närvänen, and Tuominen 2017), stemming from the needs of society.

One of the strengths of this work is the contribution of knowledge concerning the relations of these variables in a novel context of physical-sports activity. So, firstly, the findings have shown a positive and direct relation with perceived value. Specifically, Hollebeek (2013) indicated that this relation occurred more strongly in hedonic services than in utilitarian ones. This makes sense, taking into account that CrossFit sports services tend to have hedonic characteristics. Likewise, the results found show a stronger relation in women. This suggests that their commitment is greater and more strongly affects the discrepancy between what the activity of CrossFit offers and what its users have to give (Zeithaml 1988). Additionally, the results support the relation which other authors had indicated (Dovaliene, Masiulyte, and Piligrimiene 2015). On the other hand, the lack of relation between customer engagement and customer satisfaction could be explained based on the theoretical model proposed by

Pansari and Kumar (2017). In this model, customer engagement is a consequence of customer satisfaction. These authors state in their "customer engagement matrix", that the aim which all organizations must seek is a high emotion and a great satisfaction in their consumers, to achieve consumers with a strong commitment or what they call "true love". This is why their theory backs a direction of causality of satisfaction toward engagement, "when a relationship is satisfied and has emotional bonding, it then progresses to the stage of engagement" (Pansari and Kumar 2017, 295). This statement contrasts with Harrigan et al. (2017), who indicated that customer engagement should not be addressed as a result but rather as a process which leads to more measurable results, such as satisfaction.

As to the relation between perceived value and consumer satisfaction, the findings have shown this to be positive and direct. These results support the relation described by the majority of authors (Cronin, Brady, and Hult 2000) and have also been verified in other works in the sports sector (Theodorakis et al. 2014). The results have as well demonstrated a stronger relation in men, unlike the results obtained by García-Fernández et al. (2017), in which women had a greater relation. These data could be due to the fact that in this work a sports service has been studied in which the social atmosphere and tribal characteristics have a greater weight. Thus, the results have shown that the perception of what the client is willing to give in exchange for the sporting services offered at the fitness center influences client satisfaction (García-Fernández et al. 2018b). As to the fourth hypothesis, which is endorsed by Pitts and Stotlar (2013) and Calabuig-Moreno et al. (2014), differences were found regarding the sex. Positive relations between perceived value and the customer's behavioral intentions were not found in men but were in women. These data coincide with the results contributed by García-Fernández et al. (2017) in which a positive relation did not exist

either in men or in women. The resulting data have shown that, in CrossFit, women can have a greater loyalty than men if they perceive that what they give the organization is greater than what they receive in exchange. Notwithstanding, the findings demonstrate that though the customer perceives that the services received are better than those expected, the intention of continuing doing CrossFit remains in doubt and differs between women and men.

Lastly, and as Avourdiadou and Theodorakis (2014), García-Fernández et al. (2018a), and Theodorakis et al. (2014) stated, the results have shown a positive relation between satisfaction and future intentions in men and women. However, the relation was stronger in men, unlike in García-Fernández et al. (2017) where it was stronger in women and, therefore, can be determined by the characteristics of low-cost fitness centers. As a result, these data corroborate that the customer's loyalty in CrossFit is influenced by satisfaction, which, in turn, is an indirect consequence of customer engagement and where perceived value acts as a mediator between the two variables.

Implications

This work has shown that customer engagement has positive consequences for the customer loyalty chain in CrossFit users. This is why the centers that offer this type of sports services should evaluate this variable to increase customer engagement and to establish actions which improve this construct. Based on the findings in this study, among the practices suggested to increase engagement are: a) foster a proactive participation of the employees toward the users; b) increase the measurement tools to continuously improve the sports service; c) analyze those sports places and moments of the day with more inflow there and then have more qualified staff and those with greater communicative capacities; d) immediately respond to consumers' questions or suggestions; and, e) sincerely and correctly assess the sports consumers' questions.

Similarly, Smith and Westerbeek (2010) stated that the progress of technology could increase the engagement of sports consumers. This is why actions of storytelling could be used for consumers to tell about their experience and can be used by the organization as a marketing tool in its social networks. Likewise, and in line with Alonso-Dos-Santos et al. (2018), it is necessary to foster the users' participation in social networks through attractive contents, to get their attention and a follow-up of topics related with the sports center. This type of actions would bring about a greater commitment by the users and would thus improve their perceived value and satisfaction and, in sum, their loyalty to CrossFit activities.

Limitations and future research

Though this work contributes knowledge of the behavior of CrossFit users, like all works it is not exempt of limitations. Specifically, although we have used a scale of customer engagement which is generic for any typology of consumer, this is not specific for consumers of fitness centers. Specific scales have been used in the sports context, but they have been oriented at fan engagement (Yoshida et al. 2014). Also, loyalty was analyzed with a scale of future intentions and not with repeat purchase measures or other more objective measures. In the same way, the study has analyzed the consequences of customer engagement and not what the antecedents could be, as has been done with fan engagement in sports spectators (Santos et al. 2018). For this reason, and following the advice of Pansari and Kumar (2017), future research should be oriented toward the specific creation of scales which measure customer engagement in fitness services to more specifically identify what influences perceived value and satisfaction. Similarly, it would be interesting to analyze the relation between customer engagement in fitness services and measures of the consumers' real purchases. Finally, the study model has included satisfaction as a consequence of customer engagement, so

future research works must analyze if, on the contrary, satisfaction is an antecedent of engagement.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Table 1. Goodness-of-fit-indexes in CFA for the male and female group.

Model	χ^2	df	χ^2/df	CFI	IFI	TLI	RMSEA (CI)
Male	690.41	209	3.30	.93	.94	.92	.08 (.07-.08)
Female	481.61	209	2.30	.95	.95	.94	.08 (.07-.09)

Notes: χ^2, chi-square; df, degrees of freedom; χ^2/df, ratio chi-square / degree of freedom; CFI, comparative fit index; IFI, incremental fit index; TLI, Tucker-Lewis-Index; RMSEA, root mean square error of approximation; CI, confidence interval.

Table 2. Factor loadings (λ), composite reliability (CR) and average variance extracted (AVE).

	Male group			Female group		
Constructs / Items	λ	CR	AVE	λ	CR	AVE
Conscious Attention		.93	.68		.96	.79
CA1. I like to know more about this CrossFit center	.769			.861		
CA2. I like events that are related to this CrossFit center	.810			.894		
CA3. I like to learn more about this CrossFit center	.806			.941		
CA4. I pay a lot of attention to anything about this CrossFit center	.818			.879		
CA5. I keep up with things related to this CrossFit center	.855			.874		
CA6. Anything related to this CrossFit center grabs my attention	.886			.887		
Enthused Participation		.92	.65		.94	.72
EP1. I spend a lot of my discretionary time in this CrossFit center	.721			.779		
EP2. I am heavily into this CrossFit center	.849			.824		
EP3. I try to fit this CrossFit center into my Schedule	.755			.861		
EP4. I am passionate about this CrossFit center	.905			.917		
EP5. My days would not be the same without this CrossFit center	.817			.873		
EP6. I enjoy spending time in this CrossFit center	.777			.828		
Social Connection		.85	.50		.82	.61

SC1. I love this CrossFit center with my friends	.894			.837		
SC2. I enjoy this CrossFit center more when I am with others	.618			.771		
SC3. This CrossFit center is more fun when other people around me practice too	.508			.724		
Perceived Value (PV)		.83	.71		.84	.73
PV1. The programs and services of this CrossFit center deserve what they cost	.858			.875		
PV2. In general, the value of programs and services in this CrossFit center is high	.823			.835		
Satisfaction (S)		.94	.84		.98	.93
S1. I am satisfied with the services of this CrossFit center	.875			.926		
S2. I am satisfied with my decision to join this CrossFit center	.952			.982		
S3. I am pleased to have taken the decision to become a member of this CrossFit center	.929			.989		
Future Intention (FI)		.97	.93		.99	.96
FI1. You will make positive comments to a friend about the programs and services offered at this CrossFit center	.974			.990		
FI2. If you ask me, I will recommend this CrossFit center	.961			.987		
FI3. I would sign up for this CrossFit center if I unsubscribed	.953			.965		

Notes: λ, factor loading; CR, composite reliability; AVE, average variance extracted.

Table 3. Descriptive statistics of dimensions and differences between sex.

	Male group		Female group					
Constructs	*M*	*SD*	*M*	*SD*	t (df)	*p*	*d*	*R*
Conscious Attention	4.14	0.82	4.11	0.93	0.429 (518)	.668	0.03	0.01
Enthused Participation	3.83	0.87	3.67	1.01	1.913 (518)	.067	0.17	0.08
Social Connection	4.12	0.87	3.99	1.01	1.503 (518)	.133	0.14	0.07
Perceived Value	4.55	0.71	4.47	0.86	1.175 (518)	.241	0.10	0.05
Satisfaction	4.26	0.83	4.14	0.95	1.586 (518)	.113	0.13	0.06
Future Intentions	4.62	0.71	4.51	0.85	1.536 (518)	.125	0.14	0.07

Notes: *M*, mean; *SD*, standard deviation, *p*, p value; *d*, Cohen's *d*; *r*, effect-size *r*.

Table 4. Correlation and square root of the average variance extracted.

Male group	CA	EP	SC	PV	S	FI
CA	**.68**					
EP	.61	**.65**				
SC	.47	.63	**.50**			
PV	.26	.32	.21	**.71**		
S	.21	.25	.19	.70	**.84**	
FI	.19	.21	.16	.65	.85	**.93**
Female group						
CA	**.79**					
EP	.69	**.72**				
SC	.47	.68	**.61**			
PV	.50	.42	.30	**.73**		
S	.48	.38	.36	.73	**.93**	
FI	.47	.37	.35	.70	.93	**.96**

Notes: CA, Conscious Attention; EP, Enthused Participation; SC, Social Connection; PV, Perceived Value; S, Satisfaction; FI, Future Intention.

Table 5. Summary results of the structural model for each group.

		Male group			Female group		
H	Relationship	Confirmed (a)	β	Z-value	Confirmed (b)	β	Z-value
1	CE –> PV	Yes	.588***	8.76	Yes	.727***	9.04
2	CE –> S	No	.017	.34	No	.099	1.31
3	PV –> S	Yes	.880***	13.24	Yes	.841***	9.32
4	PV –> FI	No	-.066	.85	Yes	.171*	2.28
5	S –> FI	Yes	.986***	12.09	Yes	.812***	10.66

Notes: H, hypothesis; CE, Customer Engagement; PV, Perceived Value; S, Satisfaction; FI, Future Intention; * $p<.05$; ** $p<.01$; *** $p<.001$.

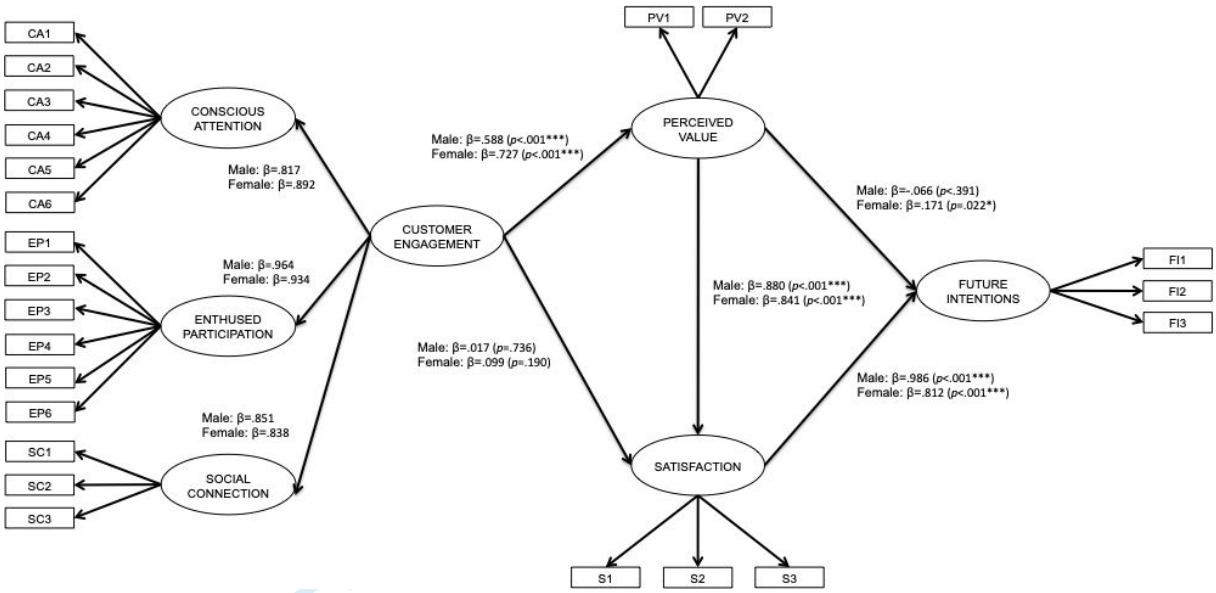

Figure 1. Standardized estimates of the structural models.

Notes: *$p < .05$; **$p < .01$; ***$p < .001$.