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Josep Crespo-Hervás[a] ⓘ, Ferran Calabuig-Moreno[a] ⓘ, Vicente Prado-Gascó[b] ⓘ, Vicente Añó-Sanz[a] and Juan Núñez-Pomar[a] ⓘ

[a]Department of Physical Education and Sports, University of Valencia, Valencia, Spain; [b]Department of Social Psychology, University of Valencia, Valencia, Spain

ABSTRACT

The aim of this research is to determine the role of passion on future intentions, perceived value, and athletes' satisfaction in relation to participatory sport events by combining two methodological approaches: linear models and qualitative comparative analysis (QCA). A sample of participatory sporting event athletes ($n = 302$) was analysed. The results suggest that there is a direct effect of harmonic passion (HP) on future intentions (FI), value (PV) and satisfaction (AS) and a direct effect of obsessive passion (OP) on satisfaction. Considering the indirect effects, both interactions were significant for the effect of perceived quality (PQ) and perceived value on satisfaction. In addition, there also seems to be a moderating effect of harmonic passion on the relationship of service quality and perceived value on future intentions. Studying the necessary conditions test, none of the conditions seem to be a necessary condition of future intentions. On the other hand, considering sufficient analysis, three sufficiency condition combinations (AS; PV*SQ; ∼OP*HP*PV) explain 87% of FI. The findings contribute to the prediction of the sport consumer decision-making process and to the understanding of how certain intrinsic variables of customers (passion) relate to service evaluations and can affect consumer assessments of overall perception of the sporting event performance.

1. Introduction

Service quality and satisfaction play a very important role in determining a company's success and that is why sports management research has a special interest in their analysis. The sport consumers' satisfaction has proven to be the key factor in the organisation of sporting events, as it is a major driver of both spectators' future behaviour and also athletes' future behaviour (Howat & Assaker, 2013).

Athlete satisfaction is crucial to the sustainability of professional sports teams and participatory events. This principle is especially true of satisfied athletes because satisfaction is a key element in retention strategies and customer loyalty (Cronin, Brady, & Hult, 2000). Satisfaction is therefore a focal point for sports management and research because satisfaction is a consequence of service quality, which is a manageable antecedent of future intentions.

The relationships between service quality, satisfaction, perceived value, and future intentions are a current issue in the professional sport sector (Theodorakis, Alexandris, Tsigilis, & Karvounis, 2013). Few studies, however, consider the perspective of athletes, and even fewer relate these variables to the athletes' passion.

Studies about professional sports teams tend to omit passion from the model when examining the links between service quality, perceived value, satisfaction, and future intentions. However, although the involvement of the customer (in this case the athlete) has been shown to be closely related to intentions and future behaviour (Bachleda, Fakhar, & Elouazzani, 2016; Dees, Bennett, & Villegas, 2008), and passion is a sign of high involvement, this relationship has not yet been studied. Given that there is evidence confirming the relationship between passion and involvement in the activity (Mageau & Vallerand, 2007), it is interesting to analyse whether there is a direct relationship between passion and future intentions or whether this relationship has any moderating effect. In addition, no study was found that analyses the effect of passion variables on the traditional sports management quality model by combining two different approaches; these approaches are analysing the moderating effect of passion and using qualitative comparative analysis (QCA).

In this context, the aim of this research is to present an analysis of the relationships between these variables and their capability to predict the future intentions of athletes. Specifically, this study determines the role of passion on future intentions, perceived value, and athletes' satisfaction in relation to professional sporting events by combining two complementary methodological approaches: linear models (LM) and QCA.

The major added value of this research lies in its analysis of the relationships between these variables, in the introduction of passion as a moderator in these relationships, and in the consideration of two complementary methodological approaches.

2. Conceptual framework and hypothesis

2.1. Service quality, perceived value, satisfaction, and future intentions chain

The quality-value-satisfaction-intention chain has been extensively studied in the service marketing literature and is paid special attention in sports management research (Howat & Assaker, 2013). The relationships between these variables have been well studied and there has been discussion about the importance of each of them and their moderating and mediating effects. However, there is now a clear consensus that high quality, value, or satisfaction indices lead to better organisational results.

The first key variable is service quality, which is the main element that a manager can improve directly to activate the value chain mentioned above. Service quality can be defined as the consumer's judgement about the excellence or superiority of a product/service (Zeithaml, 1988), or the overall impression of the consumer about the

relative superiority or inferiority of an organisation and its services (Bitner & Hubbert, 1994).

The SERVQUAL model of Parasuraman, Zeithaml, and Berry (1988) has been the most widely used measure of quality. However, in the field of sport management, measures of performance perception have been imposed, ignoring expectations (e.g. Ko, Zhang, Cattani, & Pastore, 2011). Several studies have developed their own measurement scales from the SERVQUAL model but others have developed their own measurements due to the excessive universality of SERVQUAL (Brady & Cronin, 2001) and consequently their lack of applicability to different contexts (e.g. Yoshida, & James, 2010). In any case, general measures of service quality of sporting events have shown that there is a clear and strong relationship between service quality, perceived value (e.g. Clemes, Brush, & Collins, 2011) and with spectators' satisfaction (Theodorakis & Alexandris, 2008).

The second variable that appears in the chain is the perceived value. Zeithaml (1988) defined perceived value as consumers' overall assessment of what is received relative to what is given, and this has been shown to be a strong precursor of satisfaction. Although the study of perceived value in the sporting context is more recent, there is already abundant literature that clearly establishes its linear relationship with sports consumer satisfaction (e.g. Cronin et al., 2000; García-Fernández, Gálvez-Ruiz, Vélez-Colon, Ortega-Gutiérrez, & Fernández-Gavira, 2018; Yu et al., 2014) as well as with future behavioural intentions (e.g. Calabuig Prado-Gascó, Crespo, Núñez-Pomar, & Añó, 2015; Clemes et al., 2011).

Nevertheless, the key variable in this chain is consumer satisfaction as it has shown great stability in predicting the future behaviour of sport consumers in various contexts (Clemes et al., 2011; Theodorakis et al., 2013). According to Oliver (1997), satisfaction can be defined as pleasurable fulfilment of a need, desire, or goal after consuming a product or service, with overall satisfaction having a strong affective orientation concerning customers' overall experience with a service.

There is considerable evidence of the relationship between value and satisfaction with future intentions in the services marketing literature (Bolton & Drew, 1991), and additionally, service quality is also becoming an issue of interest to sports management academics because it has proven implications, such as loyalty and involvement, for the future behaviour of spectators and participants (Alexandris, Theodorakis, Kaplanidou, & Papadimitriou, 2017; García-Fernández, Gálvez-Ruiz, Fernández-Gavira, et al., 2018. See also in 3.2 or 3.3: García-Fernández, Gálvez-Ruiz, Vélez-Colon, et al., 2018; Lee, Kim, Ko, & Sagas, 2011). Thus, based on the above review of the literature and the relationships mentioned, the following hypotheses are formulated.

H1a. Service quality has a direct and positive relationship with athletes' perceived value.

H1b. Service quality has a direct and positive relationship with athletes' satisfaction.

H2a. Perceived value has a direct and positive relationship with satisfaction.

H2b. Perceived value has a direct and positive relationship with future intentions.

H3. Athlete satisfaction has a direct and positive relationship with future intentions.

With all of the above, it is clear that there are many studies that relate service quality, value, satisfaction, and the future intentions of sport consumers, but this research largely focuses on the professional level of sport and on spectators (e.g. Calabuig, Prado-Gascó, Crespo, Núñez-Pomar & Añó, 2016; Clemes et al., 2011; Yoshida & James, 2010). However, a few very recent studies have analysed the perceptions of athletes participating in sporting events (e.g. Alexandris, Theodorakis, Kaplanidou, and Papadimitriou, 2017; MacIntosh & Parent, 2017), and we have found none that relate event performance variables to athletes' passion.

We only recently discovered research that proves that personal performance was a stronger positive determinant of event satisfaction than traditional service quality and perceived value (Du, Jordan, & Funk, 2015). The research of Alexandris et al. (2017) and MacIntosh and Parent (2017) found that service quality is more important for the development of event loyalty among low-involvement rather than highly-involved runners.

2.2. Athlete's passion

Passion is defined as a strong tendency of a person towards an activity that he considers important in his life and likes, and devotes time and energy to (Vallerand et al., 2003). Passion is linked to the way in which an activity is practised and how it is lived by the person, becoming part of his or her identity. Thus, someone is considered to be involved in a passionate activity when it becomes a central element of the person's identity (Mageau et al., 2009).

With self-determination theory (Deci & Ryan, 2000) as the theoretical framework, passion is defined from a dualistic perspective. This theory suggests that people need to satisfy their basic psychological needs of autonomy (a desire to feel a sense of personal initiative), competence (a desire to interact effectively with the environment), and relatedness (a desire to feel connected to significant others). To fulfil these needs, people interact with the environment and engage in various activities.

In this way, depending on the context in which the activity is integrated into the identity of the person, it is possible to develop an obsessive or harmonious passion for the activity (Vallerand et al., 2003).

The dualistic model of passion postulates that two distinct types of passion develop as a result of the type of internalisation process that takes place.

Harmonious passion refers to a strong inclination to engage in the activity willingly and with a sense of volition (Vallerand, Fortier, & Guay, 1997). Thus, with harmonious passion, individuals do not experience an uncontrollable urge to engage in the enjoyable activity. Harmonious passion appears when individuals have freely accepted the activity as important for them without any contingencies attached to it.

A positive relationship between harmonious passion and measures of flow and positive affect during task engagement has also been demonstrated (Mageau, Vallerand, Rousseau, Ratelle & Provencher, 2005).

Obsessive passion refers to an uncontrollable impulse to engage in the activity that one loves. It is as if the person cannot help but devote him or herself to the activity in a passionate way. This type of passion results from a controlled internalisation

(Deci & Ryan, 2000) of the activity into one's identity. A controlled internalisation takes place when intra- and/or interpersonal pressure to engage in the loved activity is present because the pleasure arising from engagement in the activity becomes uncontrollable or because certain contingencies are attached to the activity. Obsessive passion was found to be associated with a measure of conflict with other life activities (e.g. studies, family, or friends; Vallerand et al., 2003)

Sport is one of the activities that can generate passion in human beings. In this way, an athlete who develops a harmonious passion can last longer in an activity in a healthier way by practising sport in a free and voluntary way, and generating a high degree of motivation and commitment to sports practice. On the other hand, an athlete who develops the obsessive passion will feel compelled and pressured to practice this sport and will be more likely to drop out of the activity or find a different activity altogether. Likewise, passion has been found to be an important factor in improving team and activity performance (Lin & Chen, 2016; Philippe, Vallerand, Houlfort, Lavigne & Donahue, 2010; Vallerand et al., 2007). This is relevant for athletes who participate in sport in a non-professional manner and can also explain the performance of the organisation of sporting events in relation to the quality and value perceived by athletes as well as the satisfaction experienced at the event and their intention to return and recommend the event.

H4. The inclusion of passion in the model improves its explanatory power.

H5. Passion has an important role in explaining the satisfaction and future intentions of athletes in different combinations.

Considering all this, it is understood that passion could have both a positive and negative influence on consumers' perception towards the performance of a sporting event. Thus, in this study, we expect this hypothesis.

H6. Passion has a moderating role on the relationships of the quality-value-satisfaction-intentions chain.

3. Methods

3.1 Data and sample

The sample consisted of athletes who participated in a trail running race in Spain in 2017. Convenience sampling was used. Data were collected using an online survey sent to all participants after the event. Following this invitation, 326 athletes agreed to participate, although 24 responses were discarded because they were incomplete. The final sample consisted of 302 athletes, aged from 19 to 60 (average age = 40.41 ± 8.79), 85.2% men. Most participants had a university degree (53.7%) or secondary studies (33.7%).

3.2 Measurement

A self-report survey was used to measure the variables under study.

Service quality (SQ): the Pérez-Campos (2010) measure provides the tool to assess overall service quality. This scale comprises 19 items on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). This scale presented adequate psychometric characteristics in previous studies (Pérez-Campos & Alguacil, 2017) as in this study ($\alpha=.95$).

Athletes' satisfaction (AS): Oliver's (1997) scale evaluates athletes' satisfaction through three items with a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The scale presented adequate psychometric properties in previous studies in a sport context (Calabuig, Crespo, Prado-Gascó, & Núñez-Pomar, 2014; García-Fernández, Gálvez-Ruiz, Vélez-Colon, et al., 2018). These adequate psychometric properties hold for this study ($\alpha=.90$).

Perceived value (PV): the Sweeney and Soutar (2001) measure was used to assess overall perceived value on a 6 item scale with a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Previous studies in a sport management context provided evidence of the scale's adequate psychometric properties (Calabuig et al., 2014). These adequate psychometric properties hold for this study ($\alpha=.85$).

Future intentions (FI): Measurement of future intentions relies on four items (Zeithaml, Berry, & Parasuraman, 1996) with a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The scale displayed good psychometric properties in a previous study (Howat & Assaker, 2013) as in this study ($\alpha=.90$).

Passion (P): An adaptation of the Vallerand et al. (2003) scale carried out by Orgambídez, Borrego, and Gonçalves (2014), which consists of 12 items that evaluate the two different dimensions of obsessive passion (OP) and harmonic passion (HP). A five-point Likert scale ranging from strongly disagree (1) to strongly agree (5), was used. Previous research demonstrated the scale's adequate psychometric properties (Lafrenière, Jowett, Vallerand, & Carbonneau, 2011). These adequate psychometric properties hold for this study (Total $\alpha=.91$; HP $\alpha=.89$; OP $\alpha=.91$).

3.3 Data analysis

The effect of passion on the variables being studied was tested by three hierarchical regression models, six moderation models, and three different fuzzy-set qualitative comparative analyses (fsQCA). Before performing fsQCA, descriptive analysis was conducted and calibration values were calculated (Eng & Woodside, 2012) by means of SPSS v22.

The moderation analyses were performed using the PROCESS macro (Hayes, 2013), designed for testing moderation by directly assessing the significance of the indirect effect of the independent variable on the dependent variable through two moderators: OP (M) and HP (W). The moderation effect (with $n = 5000$ bootstrap re-samples) is demonstrated when the bias-corrected confidence interval (95%) of the indirect effect does not include zero (Hayes, 2013). Thus, it was calculated for those moderating the effect of SQ on FI, the effect of PV on FI, the effect of AS on FI, the effect of SQ on PV, the effect of SQ on AS, and the effect of PV on AS. The β-coefficients were calculated to investigate the relationship between pairs of variables (Pineiro-Chousa, Vizcaíno-González, & Caby, 2018).

Table 1. Hierarchical regressions of the effect of management conditions (SQ, PV, AS) and Passion conditions (OP, HP) on future intentions, perceived value, and athletes' satisfaction.

Variable Predictors	Future Intentions		Perceived value		Athletes' satisfaction	
	ΔR^2	B	ΔR^2	B	ΔR^2	β
Step 1	.64***		.42***		.59***	
Service quality		.05		.65***		.38***
Perceived value		.18***		-		.46***
Athletes' satisfaction		.63***		-		-
Step 2	.002		.10***		.02***	
Service quality		.03		.46***		.36***
Perceived value		.15***		-		.42***
Athletes' satisfaction		.63***		-		-
Obsessive passion		.02		.36***		-.14**
Harmonic passion		.05		.008		.18***
Total $R^2_{adjusted}$	.64***		.51***		.60***	

Note. – not calculated according to the theoretical model.
*$p \leq$.05; **$p \leq$ .01; ***$p \leq$.001
SQ: Service quality; PV: Perceived value; AS: athletes' satisfaction; FI: Future intentions; OP: obsessive passion (OP); HP: harmonic passion.

On the other hand, regarding QCA analysis, the raw data responses were transformed into fuzzy-set responses. First, all cases with missing data were removed. Second, all constructs (conditions) except those from SQ were calculated by multiplying their items scores (Villanueva, Montoya-Castilla, & Prado-Gascó, 2017). Third, values of the conditions were recalibrated using three thresholds (Woodside, 2013): the 10th percentile (low agreement; fully outside the set), the median (50th percentile) (intermediate agreement; neither inside nor outside the set), and the 90th percentile (high agreement; fully inside the set). Then, necessary and sufficient analyses of the three different models were performed. In the first model, all sports management conditions (SQ, PV, AS) as well as passion conditions (OP, HP) were tested regarding the outcome condition FI. Next, we tested QS, PV, OP and HP causal conditions on the outcome condition AS. Finally, SQ, OP, and HP causal conditions were tested regarding the outcome condition PV. All these models were calculated by means of fsQCA 2.0 software. This software yielded three solutions: complex, parsimonious, and intermediate. The intermediate solution is discussed in this article. The complex solution is the most restrictive, and the parsimonious solution is the least restrictive. The intermediate solution is suggested (Ragin, 2008).

4. Results

To achieve the objectives of the study, three different methodologies were carried out to determine the role of passion on future intentions, perceived value, and athletes' satisfaction in relation to professional sporting events. First the test of the direct effect of the independent variables on the dependent variable's hierarchical regression models will be presented, and then two approaches were followed to test the effect of interaction between independent variables. On the one hand, LM with moderating analysis by PROCESS was tested; on the other hand, QCA models were performed.

4.1. Hierarchical regression models

First, the predictive power of the variables under study was analysed by means of three hierarchical regressions: predictions of FI, AS, and PV. In each case, two differentiating steps were established; first the management variables (SQ, PV, AS) were included, and then the two dimensions of passion (HP and OP) were introduced.

It was observed (Table 1) that SQ, PV, AS, HP, and OP were able to explain 64% ($R^2_{adjusted}$ =.64) of FI, while SQ, PV, HP, and OP predicted 60% ($R^2_{adjusted}$ =.60) of AS, and SQ, HP and OP predicted 51% ($R^2_{adjusted}$ =.51) of PV.

Considering the different steps, it was observed that, in the case of IF prediction, the management variables (SQ (β = .03; p=.52), PV (β = .15; p=.007) and AS (β = .63; p<.001)) assumed a ΔR^2=.64 (p<.001), while the passion variables (HP (β = .05; p=.384) and OP (β = .02; p=.64)) presented a ΔR^2=.002 (p=.426).

In the prediction of AS, the management variables ((SQ (β = .36; p<.01) and PV(β = .42; p<.01)) presented a ΔR^2=.59 (p<.001), while those of passion (HP (β = .18; p=.001) and OP (β = -.14; p<.01)) presented a ΔR^2=.02 (p<.001).

Finally, in the case of PV prediction, the SQ management variables (β = .46; p<.01) represented a ΔR^2=.42 (p<.001) while the passion variables (HP (β = .36; p<.01) and OP (β = .01; p=.86)) represented a ΔR^2=.10 (p<.001).

In general, it seems that management variables have a greater predictive capacity than passion variables; additionally, the passion variables results suggest that there is a direct effect of HP on FI, PV, and AS, and a direct effect of OP on AS.

4.2. Moderating effect of obsessive passion (OP) and harmonic passion (HP) on sports management variables

We then proceeded to analyse the moderating effect of passion dimensions on the variables under study using the macro PROCESS. Table 2 shows the results of the *conditional PROCESS* analysis.

As seen from the results presented, both interactions (HP and OP) were significant on the effect of SQ on AS considering the indirect effects (HP: Effect= −.33; SE=.07; t= −4.80$_{(p<01)}$; OP: Effect=.10; SE=.04; t = 2.35$_{(p<01)}$) and on the effect of PV on AS (HP: Effect= −.35; SE=.07; t= −5.27$_{(p<01)}$; OP: Effect=.14; SE=.05; t = 2.90$_{(p<01)}$), since they do not contain 0 (Hayes, 2013). In addition, there also seems to be a moderating effect of HP on the effect of SQ on FI (Effect= −.35; SE=.08; t= −4.55$_{(p<01)}$) and on the effect of PV on FI (Effect= −.26; SE=.07; t= −3.54$_{(p<01)}$). In general, independent variables are better predictors of dependent variables the lower the score in harmonic passion; however, this situation is reversed in the case of obsessive passion.

4.3. Qualitative comparative analysis of sport management and passion conditions

We first calculated descriptive statistics and calibration values for the variables to convert the variables into fuzzy-set conditions (Table 3).

Table 2. Moderating effect of OP and HP.

Direct effect

	Effect	SE	t	p		R²	F (p)
SQ > IF	.41	.05	8.57	.00		.46	46.35 (.00)
PV > IF	.50	.05	9.90	.00		.48	50.88 (.00)
AS > IF	.73	.05	15.18	.00		.64	97.33 (.00)
SQ > PV	.44	.05	9.19	.00		.52	59.92 (.00)
SQ > AS	.49	.04	11.51	.00		.56	70.45 (.00)
PV > AS	.55	.05	12.12	.00		.58	75.99 (.00)

Moderator effect

		Effect	Boot SE	t	p	95%CI		ΔR²	F(p)
SQ > IF	PO	.02	.05	.34	.73	−.08	.11	.00	.12 (.73)
	PH	−.35	.08	−4.55	.00	−.50	−.20	.04	20.71 (.00)
PV > IF	PO	.04	.05	.77	.44	−.06	.14	.00	.59 (.44)
	PH	−.26	.07	−3.54	.00	−.41	−.12	.02	12.51 (.00)
AS > IF	PO	−.09	.05	−1.73	.08	−.19	.01	.00	3 (.08)
	PH	−.01	.07	−.15	.12	−.14	.12	.00	.02 (.88)
SQ > PV	PO	.09	.05	1.80	.07	−.08	.11	.01	3.25 (.07)
	PH	−.09	.08	−1.20	.23	−.01	.19	.00	1.48 (.23)
SQ > AS	PO	.10	.04	2.35	.02	.02	.19	.01	5.53 (.02)
	PH	−.33	.07	−4.80	.00	−.46	−.19	.04	23.05 (.00)
PV > AS	PO	.14	.05	2.90	.00	.04	.23	.01	8.39 (.00)
	PH	−.35	.07	−5.27	.00	−.48	−.22	.04	27.76 (.00)

Notes: SQ: Service quality; PV: Perceived value; AS: athletes' satisfaction; FI: Future intentions; OP: obsessive passion (OP); HP: harmonic passion.

Table 3. Descriptive statistics and calibration values.

	SQ	PV	AS	HP	OP	IF
Mean	1238.44	7160.04	97.61	7675.63	2186.93	476.84
SD	861.87	5425.04	33.23	5338.51	3674.18	190.66
Minimum	26.40	24	8	72	1	24
Maximum	3125	15625	125	15625	15625	625
Calibration values						
10th percentile	243.06	972	48	1593.60	12	192
Median	1040.18	5120	100	6400	648	430
90th percentile	2675.83	15625	125	15625	5120	625

Notes: SQ: Service quality; PV: Perceived value; AS: athletes' satisfaction; FI: Future intentions; OP: obsessive passion (OP); HP: harmonic passion.

Then, we proceed to test whether any causal conditions were necessary for the presence or absence (denoted by '∼') of the outcomes (Table 4).

Finally, we proceed to test for sufficient conditions. When performing analysis of sufficient conditions in the truth table, a threshold was established based on a break in the distribution of consistency scores (Schneider, Schulze-Bentrop, & Paunescu, 2010). Ragin (2008) recommends a minimum consistency threshold of .75. In our case, the consistency cut-off ranged between .77 and .86 (Future Intentions: .86; ∼Future Intentions: .77; Athletes' Satisfaction: .83; ∼Athletes' Satisfaction: .77; Perceived Value: .84; ∼Perceived Value: .77), the frequency cut-off for all models was set to 1. It was considered that all variables (conditions) were present for the presence of the outcome conditions and absent for the absence of the outcome condition ('∼').

Table 4. Necessary conditions.

	Future intentions		~Future intentions		Athletes' satisfaction		~Athletes' satisfaction		Perceived value		~Perceived value	
	Consistency	Coverage	Consistency	Coverage	Consistency	Coverage	Consistency	Coverage	Consistency	Coverage	Consistency	Coverage
SQ	0.67	0.88	0.36	0.27	0.71	0.86	0.37	0.32	0.77	0.79	0.44	0.46
~SQ	0.45	0.55	0.84	0.60	0.44	0.50	0.84	0.67	0.48	0.46	0.80	0.78
PV	0.70	0.89	0.34	0.25	0.73	0.86	0.36	0.30	–	–	–	–
~PV	0.41	0.52	0.86	0.63	0.40	0.47	0.83	0.69	–	–	–	–
AS	0.84	0.90	0.35	0.22	–	–	–	–	–	–	–	–
~AS	0.28	0.42	0.84	0.75	–	–	–	–	–	–	–	–
HP	0.64	0.84	0.41	0.31	0.68	0.82	0.40	0.34	0.76	0.79	0.80	0.77
~HP	0.47	0.58	0.79	0.56	0.46	0.52	0.79	0.64	0.45	0.43	0.46	0.51
OP	0.52	0.75	0.46	0.38	0.54	0.72	0.48	0.45	0.62	0.69	0.73	0.66
~OP	0.57	0.65	0.69	0.46	0.58	0.61	0.70	0.52	0.57	0.51	0.80	0.77

Note: Necessary conditions in bold (consistency $\geq$ 0.90); SQ: Service quality; PV: Perceived value; AS: athletes' satisfaction; FI: Future intentions; OP: obsessive passion (OP); HP: harmonic passion.

Table 5. Three main sufficient conditions (intermediate solution).

Frequency cut-off: 1; all conditions are present for the presence of the outcome conditions and absent for the absence of the outcome condition (~)	Future Intentions Consistency cut-off .86			~Future Intentions Consistency cut-off .77			Athletes' Satisfaction Consistency cut-off .83			~Athletes' Satisfaction Consistency cut-off .77			Perceived Value Consistency cut-off .84			~Perceived Value Consistency cut-off .77		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
SQ	–	●	●	○	–	○	–	●	●	○	○	–	●	●	–	–	–	–
PV	–	●	●	–	○	○	●	–	–	○	○	–	–	–	–	–	–	–
AS	●	–	–	○	○	–	–	–	–	–	–	–	–	–	–	○	–	–
HP	–	–	●	–	–	–	–	●	●	○	○	–	●	●	–	–	–	–
OP	–	–	○	–	○	○	–	●	–	○	–	–	–	–	–	–	–	–
Consistency	.90	.94	.92	.79	.80	.77	.86	.89	.92	.81	.80	–	.87	.89	–	.77	–	.77
Raw coverage	.84	.57	.30	.75	.76	.61	.73	.45	.56	.65	.37	–	.52	.63	–	.80	–	–
Unique coverage	.27	.02	.01	.02	.04	.01	.19	.02	.03	.35	.06	–	.05	.17	–	.80	–	–
Overall solution consistency			.88			.76			.84			.79			.85			.77
Overall solution coverage			.87			.82			.80			.72			.69			.80

Notes: ● = presence of condition; ○ = absence of condition; all sufficient conditions had adequate raw coverage between .25 and .65; SQ: Service quality; PV: Perceived value; AS: athletes' satisfaction; FI: Future intentions; OP: obsessive passion (OP); HP: harmonic passion.

The notation employed by Fiss (2011) was used to present the results. Black circles indicate the presence of a condition, and white circles indicate the absence of a condition (Table 5).

4.3.1. Sports management conditions (SQ, PV, AS) and passion conditions (OP, HP) on FI

Considering the necessary conditions test (Table 4), none of the conditions seem to be a necessary condition of either the FI or the ~FI as all consistency values are under the threshold (0.90) suggested by Ragin (2008). On the other hand, considering sufficient analysis (Table 5), three sufficiency condition combinations (AS; PV*SQ; ~OP*HP*PV) explain 87% of FI (solution coverage: .87; solution consistency: .88) and another three (~AS*~SQ; ~AS*~PV; ~OP*~AS) explain .82% of ~FI (solution coverage: .82; solution consistency: .76); all of them are adequate as raw coverage is between .25 and .65 (Eng & Woodside, 2012).

4.3.2. Sports management conditions (SQ, PV) and passion conditions (OP, HP) on AS

None of the conditions seem to be a necessary condition of neither AS nor ~AS, as all consistency values are under .90 (Ragin, 2008) (Table 4). Considering sufficient analysis (Table 5), three sufficiency condition combinations (PV; OP*SQ; *HP*SQ) explain 84% of AS (solution coverage: .80; solution consistency: .84) and another two (~HP*~PV*~SQ; OP*~PV*~SQ) explain .72% of ~AS (solution coverage: .72; solution consistency: .79); all of them are adequate as raw coverage is between .25 and .65 (Eng & Woodside, 2012).

4.3.3. Sports management conditions (SQ) and passion conditions (OP, HP) on PV

Observing the necessary test, all conditions are under .90; therefore, none of them seem to be a necessary condition of both the PV and the ~PV (Ragin, 2008) (Table 4). Regarding the sufficient analysis (Table 5), two sufficiency condition combinations (OP*SQ; HP*SQ) explain .69% of PV (solution coverage: .69; solution consistency: .85) and a single condition (~HP) explains .80% of ~PV (solution coverage: .80; solution consistency: .77); all of them are adequate as raw coverage is between .25 and .65 (Eng & Woodside, 2012).

5. Conclusions

The relationships between service quality, satisfaction, perceived value, and future intentions is a very important topic in the professional sport sector, especially when considering the perspective of athletes (Theodorakis et al., 2013). Nevertheless, very few studies consider this perspective. In general, most of these studies tend to omit passion from the model, and they normally focus only on linear models, neglecting to combine them with other complementary methodologies that enable furthering the relationship between the variables under study.

Linear models are based on linear relationships and do not consider the so-called equifinality, the possibility of obtaining different models or pathways that lead to the

same result (Eng & Woodside, 2012; Prado-Gascó & Calabuig, 2016; Ragin, 2008; Woodside, Nagy, & Megehee, 2018). A priori they are based on the individual contribution and fail to take into account the interaction or combination of the different variables under study or to account for these interactions; in recent years, interest in moderation and mediating analysis has been growing (e.g. Reysen, Snider, & Branscombe, 2012).

On the other hand, qualitative comparative analysis (QCA) is an analytical technique which enables the in-depth analysis of how a series of causal conditions contribute to a given result. They are based on Boolean or intersection logic, consider equifinality and focus not only on the influence of a particular attribute or attributes of a specific result but also on how said attributes are combined (Eng & Woodside, 2012; Ragin, 2008). The fsQCA approach is novel and there are currently quite a few studies that apply to management studies (Roig-Tierno, González-Cruz, & Llopis, 2017) although studies are scarce in sport management.

In this context, the objective of the research was to analyse the relationships between these variables and their capability to predict the future intentions of athletes by combining two complementary methodological approaches: linear models and qualitative comparative analysis models (QCA).

According to the linear models results, it seems that management dimensions in general have a greater predictive capacity than passion dimensions. In addition, the passion dimensions' results suggest that harmonic passion has a direct effect on future intentions, perceived value and athletes' satisfaction, while obsessive passion has a direct effect on athletes' satisfaction. The results also present an indirect effect of harmonic passion on the relationship of perceived quality on athletes' satisfaction, on the effect of perceived value on athletes' satisfaction, on the effect of service quality on future intentions and on the effect of perceived value on future intentions. In addition, an indirect effect of obsessive passion on the effect of perceived quality on athletes' satisfaction was discerned. In general, independent variables are better predictors of dependent variables in those athletes with a lower score in harmonic passion, while this situation is reversed in the case of obsessive passion.

On the other hand, the fsQCA first calculated the necessary conditions analysis; according to the results, no necessary condition was found in any of the models. Second, considering sufficient analysis of future intentions, three sufficiency condition combinations (high athlete satisfaction; the combination of high perceived value and high service quality; and the interaction of low obsessive passion, high harmonic passion and high perceived value) explain 87% of high future intentions, and another three (the combination of low athlete satisfaction and low service quality; the combination of low athlete satisfaction and low perceived value and the combination of low obsessive passion and low athlete satisfaction) explain 82% of low future intentions. Third, regarding sufficient analysis of athletes satisfaction, three sufficiency conditions combinations (high perceived value; high obsessive passion, and high service quality; and high harmonic passion and high service quality) explain 84% of high athlete satisfaction, while another two (the combination of low harmonic passion, low perceived value, and low service quality; and the combination of high obsessive passion, low perceived value, and low service quality) explain 72% of low athlete satisfaction.

Finally, regarding the sufficient analysis of perceived value, two sufficiency conditions combinations (the combination of high obsessive passion and high perceived quality; and the combination of high harmonic passion and high service quality) explain 69% of high perceived value, and a single condition (low harmonic passion) explains 80% of low perceived value.

According to the results, it seems that QCA models are more explicative than linear models; in addition, it seems more important to sport managers to focus on management dimensions in sports. Nevertheless, to reach high future intentions, is important to promote managerial variables as well as harmonic passion. In addition, the promotion of obsessive passion did not lead to high future intentions.

The findings contribute to the understanding of and predictions in the sport consumer decision-making process, suggesting new ways to increase the satisfaction of athletes.

Considering that the linear and QCA models correspond to different objectives, instead of focusing on one of them, sport management research must combine both as they are complementary (Barton & Beynon, 2015; Keshavarz Ghorabaee, Amiri, Zavadskas, & Antucheviciene, 2017; Rey-Martí, Ribeiro-Soriano, & Palacios-Marqués, 2016; Urueña, Arenas, & Hidalgo, 2018; Woodside, 2013).

These results have some implications for management. Thus, perceived value appears as a determining variable to predict future intentions given that it appears in both linear and non-linear relationships. Thus, sport managers should carry out actions that increase the value of competitions so that athletes feel that the service received is profitable and worthwhile.

With regard to passion, the results indicate that harmonious passion is important both for future intentions and for consumer satisfaction. As such, sport managers should promote the enjoyment of athletes both during service and in pre-race training.

Despite the interest of the present study, there are some limitations to consider; the main limitation of this investigation concerns the sample, which is common in the discipline. The sampling procedures used in this case were not probabilistic and are generally not representative of the population as a whole, making it difficult to generalise the results. However, taking into account the sample size used, we consider that the results obtained represent a useful first approximation of the study phenomenon. We suggest expanding the sample in the future, replicating the study in other populations and contexts, and performing stratified probability sampling.

Another of the limitations observed is regarding the type of measuring instruments used. In all cases, self-reporting measures were used; this is a common research tool but may introduce biases due to the phenomenon of social desirability. It would be advisable in future research to implement other types of hetero-compliance instruments and/or objective external measures.

Disclosure statement

No potential conflict of interest was reported by the authors.

ORCID

Josep Crespo-Hervás 🔟 http://orcid.org/0000-0002-8509-0353
Ferran Calabuig-Moreno 🔟 http://orcid.org/0000-0002-4538-2976
Vicente Prado-Gascó 🔟 http://orcid.org/0000-0002-2108-2186
Juan Núñez-Pomar 🔟 http://orcid.org/0000-0002-9476-9392

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