

---

## Segmenting fitness centre clients

---

### Mário Teixeira\*

Department of Sport and Health  
University of Évora  
Pavilhão Gimnodesportivo da Universidade de Évora  
Prolongamento da Rua de Reguengos e Monsaraz, No. 14  
7000-727 Évora, Portugal  
Fax: (+351) 266 769521  
E-mail: mario-teixeira@netcabo.pt  
\*Corresponding author

### Abel Correia

Faculty of Human Movements  
Technical University of Lisbon  
Estrada da Costa  
1495-688 Cruz Quebrada, Portugal  
Fax: (+351) 214 144 712  
E-mail: acorreia@fmh.utl.pt

**Abstract:** This study segments the clients of fitness centres in the Portuguese island of Madeira based on cluster analysis. A questionnaire with 121 observations is used to examine the motivation profiles. The findings reveal that there are three segments in the data: the first is denominated as the 'happy consumer' segment. The second segment consists of the 'unhappy consumers' and the third are composed of the unmarried, unattached consumers. The managerial implications of the results are derived.

**Keywords:** sport management; fitness centre; marketing strategy; cluster analysis.

**Reference** to this paper should be made as follows: Teixeira, M. and Correia, A. (2009) 'Segmenting fitness centre clients', *Int. J. Sport Management and Marketing*, Vol. 5, No. 4, pp.396-416.

**Biographical notes:** Mário Coelho Teixeira currently teaches Sport Management in the Department of Sport and Health at the University of Évora, Portugal. He is a PhD student and has a Master's degree in Sports Management from the Technical University of Lisbon. His teaching experience covers public and private higher education institutions at the Bachelor degree, Postgraduate and Master's levels in Portugal and Spain (Universidad de Extremadura). He has taught in various areas that include public administration, municipal management, strategic planning, leisure and sports tourism, public sports policy, regional development, large-scale event organisation, management of sports facilities, marketing, communication and public relations. He has finished a specialist course in Public Administration Senior Management and has occupied a post as a Municipal Director in the Lisbon City Hall. He was a member of the Advisory Board of the Sociedade Portugal 2004 (UEFA Euro 2004 Football Championships, hosted in Portugal).

Abel Correia has a PhD in Human Movements, specialising in Sport Sciences, at the Human Movements Faculty of the Technical University of Lisbon (FMH-UTL). As an Associate Professor working in the Sport Sciences Department, he teaches Sports Organisation and Sports Marketing in the FMH-UTL's degree course in Sports Management. His interests include sports organisational strategy and sports marketing management.

---

## **1 Introduction**

This study adopts cluster analysis to segment the client profiles in fitness centres based on the data obtained from a questionnaire survey conducted in Madeira in 2007. This study is of interest not only to fitness centres in general, but also to health administrators, who can gain insights into the health demand through sports activities and apply the estimated cluster to segment the population into groups.

The motivation for the present research is based on three issues. First, fitness centres are increasingly providing a location for the practice of sports and physical exercise in Portugal, involving franchising as the means of commercial exploitation and providing employment for sports management graduates. Therefore, research in this field is needed in order to understand its dynamics. Second, it is of interest to identify the consumer preferences in relation to this type of sport activity in order to design and implement the appropriate marketing strategies. Finally, clustering the sport and fitness consumers allows the management to segment the market, which is the first step in any marketing plan.

Cluster analysis in sports was adopted by Luna-Arocas and Tang (2004), who analysed the motivations and satisfaction of the consumers at fitness centres in Spain.

This study is organised as follows: the contextual setting is presented in Section 2. Section 3 surveys the relevant literature. Section 4 highlights the theoretical framework. Section 5 explains the methodology. Section 6 displays the data, while Section 7 presents the results; Section 8 discusses the results, Section 9 considers the limitations and possible extensions of the paper and finally, Section 10 concludes.

## **2 The contextual setting**

Sports have come to occupy a position of prominence, both economically and socially, in the Portuguese island of Madeira. This stems from the fact that the autonomous regional government has long made sports an investment priority so that the younger generations are accustomed to practising sports. As a result, the island's citizens are clearly aware of the benefits of fitness to their health, therefore, the supply of facilities must meet the demand.

The first fitness centre in Madeira was constructed in a luxury hotel, providing an optional service to the guests. The managers were quick to observe the opportunity to offer these facilities and services to the local community, which had formerly lacked such a provision. Nowadays, in addition to the hotel-based facilities, there is a growing number of private and independent fitness centres on the island.

There are currently 84 health and fitness centres in the main island of Madeira. The local health and fitness sector has been developing throughout the last ten years, with its particularly rapid growth in the last five years reflected in the construction of new, better equipped and more modern centres, thereby creating market competition for health sports consumers. Another interesting aspect is that most of the fitness centres are situated in Funchal, the capital of Madeira. According to the most recent census, the population of this city stands at approximately 104 000. However, an effect of the regional government policy of decentralisation, which promotes more balanced development throughout the island, is that fitness centres are now appearing in other smaller towns, for example, in Machico and Caniço.

### **3 Literature survey**

The literature of direct relevance to the present study is surveyed in several strands, based on each variable used to segment the consumers.

#### *3.1 Demographic variables*

Research suggests that men are more competitive than women and young people are more competitive than their older counterparts (Cashdan, 1998). Young and single people are keen to exercise, improve their physical image, meet people of the opposite sex and satisfy their social needs (Maslow, 1970; Tang and West, 1997). However, as one grows older, physical appearances may be harder to maintain due to the lack of time and motivation, the inconvenience and the additional responsibilities arising from one's job and family (Biddle and Smith, 1991; Duda, 1991). For married and older people, improving one's physical image (extrinsic motivation) and social needs are likely to become less important.

Undoubtedly, physical exercise (intrinsic motivation) can improve the quality of life. Nonetheless, an individual's survival is not necessarily jeopardised immediately by a lack of physical exercise. Moreover, it is not necessarily important for all demographic groups at the same level. However, at an extreme, the lack of physical exercise may cause many major physical problems, such as obesity, high blood pressure, coronary heart disease, *etc.* It may reasonably be argued that physical exercise is somewhat important for all age groups.

#### *3.2 Sport motivation*

In the literature on motivation, researchers have examined human needs (Maslow, 1970), intrinsic and extrinsic motivation (Deci and Ryan, 1985; Gupta and Shaw, 1998; Herzberg *et al.*, 1959; Pfeffer, 1998; Ryan and Deci, 2000), achievement motivation (McClelland, 1984) and many other theories. Researchers in the domain of sports have investigated the athletes' needs, intrinsic motivation, extrinsic motivation and amotivation in different sports, age groups and competition levels (McDonald *et al.*, 2002; Greenwell *et al.*, 2002).

In addition, various means of measuring sport motivation are found in the literature, for example, the Sport Motivation Scale (SMS) (Pelletier *et al.*, 1995), the Task and Ego Orientation in Sport Questionnaire (TEOSQ) (Duda, 1993), the Intrinsic Motivation Inventory (IMI) (McAuley *et al.*, 1989) and the Youth Sport Motivation (Green, 1997).

### 3.3 Human needs and sport

The theoretical and empirical contributions of this research relate to the hierarchy of human needs (Maslow, 1970) within the context of fitness centres. Human needs are dynamic. As an individual's age, income, marital status, family, number of children, physical strength, energy and appearance changes, his/her needs, values and motivations may alter accordingly.

Satisfied needs are not motivators, but unsatisfied needs are (Maslow, 1970). With regard to human needs, two contrasting processes are involved: (1) satisfaction and progression and (2) frustration and regression (Alderfer, 1972; Maslow, 1970). Over time, the importance and satisfaction of needs will evolve (*e.g.*, Tang and West, 1997; Tang *et al.*, 2002). Next, we will examine some selected demographic variables that may have an impact on the people's motivation to exercise.

### 3.4 Sport motivation and fitness centres

Most fitness centre consumers take no part in competitions as registered or professional athletes. Activities at the fitness centres are considered to be leisure pursuits. The interest of leisure is 'in the individual, not the activity' (Tinsley and Tinsley, 1982, p.105). These authors studied subjective feelings, motivation and the psychological benefits of sport. However, thus far, very little research has examined the motivational drivers (motives) of the fitness centre clients. Among the few papers which include the latter objective, we find Kim and Kim (1998) and Luna-Arocas (1999). The present study adopts the Motivation in Sport Scale (MISS/Sport Centre) developed by Luna-Arocas (1999).

According to the Self-Determination Theory (SDT), the social contexts that satisfy the psychological needs for competence, autonomy and relatedness nurture the development of more self-determined regulations which, in turn, underpin task persistence and psychological well-being (Deci and Ryan, 1985; Ryan and Deci, 2000). The motives for exercise may range along a continuum, from being highly controlled (*e.g.*, prescribed by doctors) to volitionally endorsed. One frequently cited motive for embarking on an exercise programme is health improvement (Castellani *et al.*, 2003).

The intrinsic motivation for physical exercise is significantly related to attendance and the subjects' confidence in their intentions to continue exercising beyond the completion of the programme, in addition to their perceptions of being competent, experiencing enjoyment and making an effort (Oman and McAuley, 1993). Other individuals value the important benefits associated with exercising, *e.g.*, the psychological well-being, the positive subjective feelings and emotions, coping with stress, relaxation, meeting people and social support (Biddle and Smith, 1991; Duda, 1991). The consumers who participate for less controlling motives or higher enjoyment will have high self-esteem and intrinsic motivation.

On the other hand, the individuals who participate in a fitness programme for highly controlled reasons may have low self-esteem and intrinsic motivation. These people are concerned at the prospect of others' negative evaluation of their physical selves in fitness environments such as gyms, exercise classes and weight rooms, *i.e.*, the places that are conducive to manifestations of such anxiety, given that a significant proportion of their *raison d'être* is the improvement of body image (Gray, 1977). The individuals' desire to look better in the eyes of others has been found to be a major motivational reason for taking up exercise. In the exercise domain, external regulation represents the least

self-determined form of extrinsic motivation and involves exercising to satisfy an external demand. Exercise may offer extrinsic values, *e.g.*, competition, entertainment and an enhanced body image. To sum up, the intrinsic reasons for exercise may include pleasure and enjoyment, whereas the extrinsic reasons may stem from direct or subtle pressure from others, or may be based on fitness or appearance motives (*e.g.*, Frederick and Morrison, 1996; Frederick and Ryan, 1993).

### 3.5 Sport consumption, motivation and satisfaction

In the present paper, we examine the Madeira fitness centre consumers' motives using the 26-item, eight-factor MISS/Sport Centre, developed specifically for fitness centres by Luna-Arocas (1999). This author classifies the eight motives of the MISS/Sport Centre into two general categories: the intrinsic motives (*i.e.*, positive effect, physical exercise, coping strategy and social contact) and extrinsic motives (*i.e.*, competition, personal challenge, body image and entertainment).

We apply cluster analysis to identify the motivation profiles of the fitness centre consumers, using the eight motives of the MISS/Sport Centre (Luna-Arocas, 1999). Each consumer may score high, median or low on each of these eight motives. By combining the high, median and low scores of these eight motives, we can group the consumers into three to five clusters. The number of clusters is selected on the basis of *a priori* criteria, practical judgement, common sense and theoretical foundations. Furthermore, we will be able to arrange all these clusters from the most positive cluster (have high scores on several motives), to neutral clusters and on to the most negative cluster (have low scores on several motives). We assert that there will be three to five clusters of consumers based on the eight motives of the MISS/Sport Centre (cf. Luna-Arocas and Tang, 2004).

The consumers' satisfaction with a service is influenced by the combination of price, the quality of service, the employees' responsiveness, convenience and other factors (*e.g.*, Ostrom and Iacobucci, 1995). Sport marketers must focus on the factors that are fully or partially controllable by the service provider, while accepting the fact that certain elements will be beyond their control. We adopt a 15-item measure of Consumer Satisfaction with the Sport Centre (CSSC) (Luna-Arocas, 1999) using three factors: consumer interaction (five items), administration of the gym (five items) and the general perceptions of the gym (five items).

For example, the administration of the gym involves pricing (Daniel and Johnson, 2004), communication with the consumers, social activities, the selection of services and activities and the reputation (brand image) of the fitness centre. We argue that the MISS/Sport Centre is related to one's positive disposition or affect (cf. Judge, 1993; Staw *et al.*, 1986). The theory of reasoned action (Ajzen and Fishbein, 1980) states that behaviour is determined by intention, which is a function of the attitude towards behaviour and the subjective norms.

Hence, those with positive dispositions are more willing to change their lives proactively (cf. Judge, 1993; Staw *et al.*, 1986). Positive attitudes and positive behaviour are highly correlated. We hypothesise that the consumers in the most positive cluster, with many high scores on the different motives of the MISS measure, are likely to have more positive dispositions that, in turn, may lead to their proactively changing their lives (Judge, 1993) and a higher satisfaction with the fitness centre than those in the most negative or neutral motivation clusters.

### 3.6 Quality

In recent years, a marked increase has taken place in the number of fitness centres offering a wide range of sports activities. The raising of the standards of education of the clients and the globalisation process in relation to information, together with the increased competition among the private organisations operating in the sports sector, have stimulated the demand for top-quality services.

The preoccupation with quality has always been inherent in the human condition. It can be considered that the quest for quality originated in the era when the population consumed only what it produced (Pires *et al.*, 2004; Pires, 2000). From the commercial perspective, the term 'quality' appeared in the 19th century in order to ensure that the large-scale manufacture of industrial goods respected the standards required by the market.

In the present day, the importance of quality should not be underestimated, since it plays a fundamental role in determining the functioning and success of every organisation (Murray and Howat, 2002; Alexandris *et al.*, 2001; Chelladurai and Chang, 2000; Linton *et al.*, 2000; Cruz and Carvalho, 1998; Zeithaml *et al.*, 1996).

The services based on high standards of quality are crucial to the survival of any enterprise, regardless of the sector in which it is active. By defining this strategic orientation, the company benefits by gaining clients and retaining their loyalty, in addition to ensuring the profitability of its services and obtaining a competitive advantage in the market, which is decisive in gaining victory over its rivals (Quaresma, 2003; Kotler, 2000).

### 3.7 The expectations and perceptions

In view of their particular characteristics of intangibility, heterogeneity, inseparability and durability, which distinguish them from products, the services of high quality could be conceived as a type of attitude that results from the comparison between the clients' expectations and perceptions of the performance of an organisation (Parasuraman *et al.*, 1988).

Recently, given the immense market competition, the quality of the services as perceived by the client has become one of the principal areas of interest to all enterprises, including fitness centres.

However, most specialists in this domain argue that the quality of the service is a multidimensional construct (Theodorakis *et al.*, 1998). Confronted by the difficulty in reaching a consensus on a definition of the quality of service, the researchers appear to agree that the term 'quality' refers to the client's perception of the form and content of the service provided (Theodorakis and Kambitsis, 1998; Zeithaml and Bitner, 2000).

Hence, various differing viewpoints are found on this issue.

Correia (2000) considers that the quality of the service corresponds to the quality perceived by the client. Therefore, there is a dependence, firstly, on the expectations raised in relation to the service, which are constructed on the basis of previous experience, secondly, on the communication processes between the service provider and the client and thirdly, on the client's personal interests and needs (Teixeira, 2000).

According to Grönroos (2000), the quality of the service means the extent of efficiency with which the service meets the expectations of the client. The respective effect and satisfaction will be obtained by means of two mechanisms: the perception of the quality of the service and the comparison with the client's prior expectations.

As Parasuraman *et al.* (1988) indicated, the quality of the service perceived by the client arises from the difference between the service as expected and the service as it is perceived. The management of the quality of the service must concentrate its efforts on the gaps that allow the identification of the common causes of dissatisfaction among the clients of the service providers. The main obstacles that prevent an enterprise from providing services at a level of quality that would be satisfactory to its clients can be identified with the use of a model conceived for this specific purpose, which is known as a 'gap model'.

### 3.8 Satisfaction and loyalty

The quality of a service is, by its nature, a subjective concept, so that insight into the client's thinking on quality is a fundamental prerequisite for effective management (Rust and Oliver, 1994).

Thus, the quality of a service represents a strategic factor in the development of organisations, which is known to be related to the other key concepts in marketing, in particular, client satisfaction, value for money and the retention and behavioural intentions of loyalty (Theodorakis *et al.*, 1998).

Whilst the quality of service and client satisfaction are highly related, this is not to undervalue the existence of the other external dimensions that influence or determine quality (Rust and Oliver, 1994), given that the client's satisfaction or dissatisfaction is the result of his own analysis, by which he compares the quality of the service experienced in reality with the quality expected *a priori*.

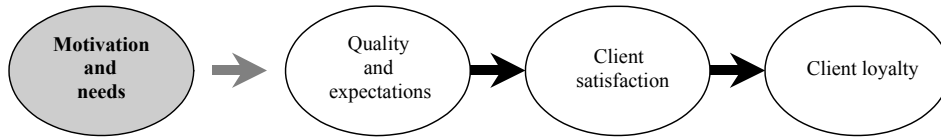
Satisfaction can be described as a summary psychological state resulting from the moment at which the expectations of a service merge with the feelings produced in the consumer after experiencing the service (Oliver, 1981, in Parasuraman *et al.*, 1988).

It appears beyond much doubt that when clients perceive the quality of the service, they will, in turn, feel satisfied and thus, will tend to remain loyal to the service provider. Furthermore, studies on the marketing of services argue that the quality of the service is the decisive factor that accounts for client satisfaction and loyalty (Chang, 1998).

Scientific evidence has been produced in support of the positive influence that is generated by the perceptions of quality and satisfaction on the behavioural intentions of the clients. This affirmation is supported both by the results of the research conducted by Cronin and Taylor (1992), who show that there is a positive correlation between the quality of the service, satisfaction and client loyalty, and by the later study of Anderson and Fornell (1994), who concludes that an enterprise that provides a level of quality that satisfies its clients generates a competitive advantage in the form of the loyalty earned from those same clients (*viz.* Figure 1 below).

On the other hand, the research carried out by Grönroos (2000) points to a nonlinear relationship among these three dimensions. In spite of the fact that the provision of quality service assumes great importance in the satisfaction of the clients, there is no guarantee that either quality or satisfaction will ensure their loyalty. In the author's view, only the extremely satisfied clients are likely to produce stable levels of loyalty.

**Figure 1** The causes and effects of client satisfaction



Source: Adapted from Anderson and Fornell (1994)

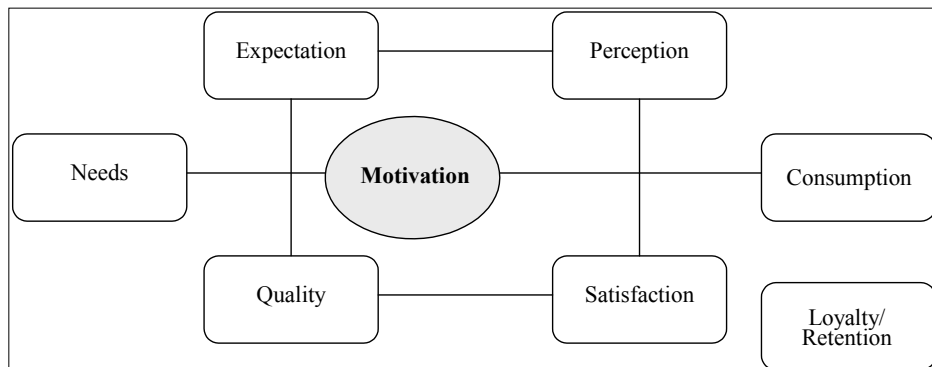
Chang (1998) went as far as to develop a systemic model for the quality of fitness services. The author’s specific study on quality, client satisfaction and loyalty by means of the characteristics of the services provided in fitness centres allowed for three basic notions to be associated:

- 1 quality precedes satisfaction, which precedes loyalty in a logical sequence
- 2 quality results from the interaction between the products, services, consumers, processes and environment, from the perspective of the system of production and the consumption of the services
- 3 quality that incorporates the perceptions and reactions of the clients to all of the service distribution processes within a context of global evaluation.

**4 Theoretical framework**

The theoretical framework supporting the present research is Fishbein and Ajzen’s (1980) theory of reasoned action (Baker and Crompton, 2000) as applied in management and economic research and the role theory of sport behaviour (Cohen, 1972; Pearce, 1985; Yannakis and Gibson, 1992) from the perspectives of sociology and ethnography. Both theories take into account different variables to explain sport choices, namely the motivations, expectations and socioeconomic variables that attempt to explain the heterogeneity of each sport choice. The fitness sport consumer is regarded as a rational individual who decides to visit a sports facility according to its attributes and his/her own motivations, conditioned by previous experience (Howarth and Sheth, 1969). This assumption highlights the importance of motivations and information sources in the choice of a fitness centre. Figure 2 represents this relationship.

**Figure 2** The choice of fitness centres





## 5 Methodology

The data was obtained from a random questionnaire distributed in fitness centres in Funchal, the capital city of Madeira (Barros and Gonçalves, 2007). Four randomly selected fitness centres with an estimated total population of 1000 clients were used. Around 300 questionnaires were randomly stratified by the four fitness centres based on the number of clients. A total of 150 questionnaires were returned by the respondents, of which 130 completed questionnaires were retained for the present analysis, thus representing a response rate of 43.3% of the sample chosen. This corresponds to a sampling error of 2.7%, with a confidence interval of 95%. The remaining questionnaires (not considered for the present research) were discarded, owing to the uncompleted fields or errors detected in the responses.

The sample variables used in the analysis are presented in Table 1. The objective was to evaluate the motivations, expectations and perceptions of quality as the drivers of satisfaction among Madeira's fitness centre consumers. To pursue this objective, the questionnaire was structured according to this table. The survey has three types of variables: dichotomous variables, continuous variables and qualitative variables (seven-item Likert scale). The set of explanatory variables considered in this study attempts to capture the key determinants of the decision process based on the theoretical framework and the literature review.

## 6 Data

Table 1 presents the set of variables used in the analysis.

**Table 1** The characterisation of the variables

<i>Descriptive statistics</i>							
<i>ID</i>	<i>Variable</i>	<i>Description</i>	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>Std. deviation</i>
A	Age	Age of the respondent	123	14	82	32,59	11,490
	Gender	Gender of the respondent	123	0	1	0,46	0,500
	Single	Unmarried, unattached	121	0	1	0,56	0,498
	N children	Number of children	121	0	1	0,21	0,407
	Nationality	Nationality of the respondent	123	0	1	0,98	0,155
	Professional	Occupational status: working or not	123	0	1	0,80	0,398
	Income	Average income of the respondent	121	0	1.900	966,94	508,288
B1	Expectations	Expectations related to the fitness centre	123	1	5	3,85	0,686
B2	Friends	Choice of the fitness centre based on friends' recommendation	120	1	5	3,13	1,089
	Advertising	Choice based on advertising	120	1	5	2,92	1,042
	Book/Photos	Choice based on book or photos	118	0	5	2,25	1,047
	Articles	Choice based on newspaper/magazine articles	117	0	5	2,62	1,057

**Table 1** The characterisation of the variables (continued)

<i>Descriptive statistics</i>							
<i>ID</i>	<i>Variable</i>	<i>Description</i>	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>Std. deviation</i>
	E-mail	Choice based on information via e-mail	118	0	5	2,27	1,099
	Doctor	Choice based on medical advice	118	0	5	2,98	1,267
	Internet	Choice based on information found on the internet	117	0	5	2,56	1,156
	Entertainment	Choice based on the additional entertainment offered (1-not important; 5-extremely important)	120	1	5	3,03	1,049
	Transport	Choice based on accessibility (1-not important; 5-extremely important)	120	1	5	3,06	1,279
	Local	Choice based on its location (1-not important; 5-extremely important)	121	1	5	3,93	0,873
	Facilities	Choice based on its facilities (1-not important; 5-extremely important)	120	1	5	4,06	0,802
	Equipment	Choice based on the quality of the equipment (1-not important; 5-extremely important)	121	2	5	4,15	0,760
	Friendliness	Choice based on the friendliness of the staff (1-not important; 5-extremely important)	121	2	5	4,19	0,756
	Activities	Choice based on the services offered (1-not important; 5-extremely important)	121	2	5	4,11	0,772
	Hygiene	Choice based on the cleanliness of the premises (1-not important; 5-extremely important)	120	2	5	4,40	0,726
	Safety	Choice based on the approach to safety (1-not important; 5-extremely important)	120	2	5	4,16	0,830
	Life style	Choice based on the lifestyle of the clients (1-not important; 5-extremely important)	120	1	5	3,15	1,214
	Distance	Choice based on the distance from home or work (1-not important; 5-extremely important)	121	1	5	3,60	1,137
	Competence	Choice based on the competence of the instructors (1-not important; 5-extremely important)	121	1	5	4,31	0,865
	Open/Close	Choice based on its opening and closing times (1-not important; 5-extremely important)	121	1	5	4,02	0,831
	Hours	Choice based on the timetable of activities (1-not important; 5-extremely important)	115	0	5	3,90	1,076
	Atmosphere	Choice based on its atmosphere (1-not important; 5-extremely important)	121	2	5	3,91	0,856
	Traffic	Choice based on the traffic conditions (1-not important; 5-extremely important)	121	1	5	3,50	0,967

**Table 1** The characterisation of the variables (continued)

<i>Descriptive statistics</i>							
<i>ID</i>	<i>Variable</i>	<i>Description</i>	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>Std. deviation</i>
	Parking	Choice based on the parking facilities (1-not important; 5-extremely important)	121	1	5	3,65	1,054
	Variety	Choice based on the variety of services offered (1-not important; 5-extremely important)	121	1	5	3,83	0,869
	Price	Choice based on economic factors, <i>i.e.</i> , subscriptions, charges (1-not important; 5-extremely important)	121	1	5	3,60	1,005
	Clients	Choice based on the number of clients (1-not important; 5-extremely important)	121	1	5	2,82	1,088
	Reputation	Choice based on its reputation (1-not important; 5-extremely important)	121	1	5	3,37	1,058
	Caring	Choice based on the attitude and approach of the staff (1-not important; 5-extremely important)	121	0	5	3,81	0,859
B3	Looks	Satisfaction of the respondent with the appearance of the staff (1-very low; 5-very high)	121	3	5	4,07	0,660
	Staff friendliness	Satisfaction with the staff's friendliness (1-very low; 5-very high)	122	3	5	4,33	0,636
	Staff competence	Satisfaction with the competence of the staff (1-very low; 5-very high)	122	2	5	4,18	0,630
	Waiting in reception	Satisfaction with the waiting time in the reception (1-very low; 5-very high)	122	1	5	3,57	1,028
	Waiting for classes	Satisfaction of the respondent with the waiting time for class sessions (1-very low; 5-very high)	122	1	5	3,49	1,100
	Waiting for equipment	Satisfaction with the waiting time for the use of equipment (1-very low; 5-very high)	121	1	5	3,58	1,023
	Equipment	Satisfaction with the equipment (1-very low; 5-very high)	122	2	5	3,98	0,721
	Hygiene	Satisfaction with the cleanliness of premises and staff (1-very low; 5-very high)	122	2	5	4,00	0,761
	Safety	Satisfaction with the safety measures (1-very low; 5-very high)	122	1	5	3,93	0,821
	Facilities	Satisfaction of the respondent with the facilities (1-very low; 5-very high)	121	2	5	4,02	0,713
	Services	Satisfaction with the services offered (1-very low; 5-very high)	122	3	5	4,08	0,699
	Variety	Satisfaction with the range of activities (1-very low; 5-very high)	122	2	5	3,99	0,722

**Table 1** The characterisation of the variables (continued)

<i>Descriptive statistics</i>							
<i>ID</i>	<i>Variable</i>	<i>Description</i>	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>Std. deviation</i>
	Open/Close	Satisfaction with the opening and closing times (1-very low; 5-very high)	122	0	5	4,13	0,749
	Class time	Satisfaction of the respondent with the class times (1-very low; 5-very high)	122	3	5	4,08	0,650
	Atmosphere	Satisfaction with the general atmosphere (1-very low; 5-very high)	122	2	5	4,01	0,674
	Party	Satisfaction with the parties organised by the fitness centre (1-very low; 5-very high)	120	1	5	3,64	0,924
	Parking	Satisfaction with the parking facilities (1-very low; 5-very high)	122	1	5	3,80	0,953
	Age equipment	Satisfaction with the age of the equipment (1-very low; 5-very high)	122	2	5	3,93	0,736
	Prices	Satisfaction with the centre's prices (1-very low; 5-very high)	123	1	5	3,37	0,987
	Clients	Satisfaction with the number of clients (1-very low; 5-very high)	121	1	5	3,38	0,839
B4	Declaration 1	I feel happy when I am in the fitness centre (1-I do not agree; 5-I strongly agree)	123	2	5	4,33	0,816
	Declaration 2	I am satisfied with the fitness centre (1-I do not agree; 5-I strongly agree)	123	2	5	4,38	0,741
	Declaration 3	All of my expectations of the fitness centre have been fulfilled (1-I do not agree; 5-I strongly agree)	123	2	5	4,15	0,830
	Declaration 4	My evaluation of my experience in the fitness centre is positive (1-I do not agree; 5-I strongly agree)	123	2	5	4,44	0,780
	Declaration 5	If I had the choice, I would not change to another fitness centre (1-I do not agree; 5-I strongly agree)	122	1	5	4,19	1,015
C1	SWLS1	My life is as I wish it to be (1-I do not agree; 5-I strongly agree)	123	1	5	3,70	0,949
	SWLS2	My life conditions are very good (1-I do not agree; 5-I strongly agree)	122	1	5	3,75	0,921
	SWLS3	I am satisfied with my life (1-I do not agree; 5-I strongly agree)	123	2	5	3,98	0,854
	SWLS4	I have achieved all the primary goals I set for my life (1-I do not agree; 5-I strongly agree)	123	1	5	3,91	0,992
	SWLS5	If I could begin my life again, I would not change anything (1-I do not agree; 5-I strongly agree)	123	1	5	3,54	1,196

**Table 1** The characterisation of the variables (continued)

<i>Descriptive statistics</i>							
<i>ID</i>	<i>Variable</i>	<i>Description</i>	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>Std. deviation</i>
<i>Emotions related to the fitness centre:</i>							
C2	Interested	Interested (1-I do not agree; 5-I strongly agree)	123	2	5	3,76	0,872
	Enthusiastic	Enthusiastic (1-I do not agree; 5-I strongly agree)	123	1	5	3,74	0,886
	Excited	Excited (1-I do not agree; 5-I strongly agree)	121	1	5	3,21	1,034
	Inspired	Inspired (1-I do not agree; 5-I strongly agree)	122	1	5	3,41	1,074
	Determined	Determined (1-I do not agree; 5-I strongly agree)	122	1	5	3,75	0,950
	Proud	Proud (1-I do not agree; 5-I strongly agree)	122	1	5	3,30	1,113
	Active	Active (1-I do not agree; 5-I strongly agree)	122	2	5	3,74	0,880
	Delighted	Delighted (1-I do not agree; 5-I strongly agree)	122	1	5	3,20	1,105
	Warm	Warm (1-I do not agree; 5-I strongly agree)	121	1	5	3,00	1,204
	Surprised	Surprised (1-I do not agree; 5-I strongly agree)	122	1	5	2,70	1,218
	Disturbed	Disturbed (1-I do not agree; 5-I strongly agree)	122	1	4	1,32	0,707
	Distraught	Distraught (1-I do not agree; 5-I strongly agree)	122	1	4	1,23	0,614
	Intimidated	Intimidated (1-I do not agree; 5-I strongly agree)	122	1	4	1,16	0,498
	Frightened	Frightened (1-I do not agree; 5-I strongly agree)	122	1	3	1,11	0,411
	Nervous	Nervous (1-I do not agree; 5-I strongly agree)	122	1	4	1,24	0,576
	Shaky	Shaky (1-I do not agree; 5-I strongly agree)	122	1	3	1,14	0,451
	Regretful	Regretful (1-I do not agree; 5-I strongly agree)	122	1	4	1,16	0,515
	Guilty	Guilty (1-I do not agree; 5-I strongly agree)	122	1	4	1,13	0,480
	Angry	Angry (1-I do not agree; 5-I strongly agree)	122	1	3	1,16	0,464
	Disgusted	Disgusted (1-I do not agree; 5-I strongly agree)	122	1	3	1,10	0,373
	Alone	Alone (1-I do not agree; 5-I strongly agree)	122	0	4	1,19	0,550
	Abandoned	Abandoned (1-I do not agree; 5-I strongly agree)	122	1	4	1,12	0,456
<i>Motivations to use the fitness centre:</i>							
D1	Physical strength	To gain physical strength	123	0	1	0,60	0,492
	Health	Health	123	0	1	0,36	0,481
	Entertainment	Entertainment	123	0	1	0,09	0,287
	Aesthetic	Aesthetical	123	0	1	0,12	0,329

**Table 1** The characterisation of the variables (continued)

<i>Descriptive statistics</i>							
<i>ID</i>	<i>Variable</i>	<i>Description</i>	<i>N</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>Std. deviation</i>
	Stress	Stress relief	123	0	1	0,19	0,391
	Conviviality	Conviviality	123	0	1	0,14	0,347
	Well-being	Well-being	123	0	1	0,19	0,391
	Professional	Career-related	123	0	1	0,02	0,127
D2	Constant	This motivation is constant or evolves with time	123	0	1	0,32	0,467
D3	Monthly spending	Monthly expenditure in the fitness centre	123	50	300	72,40	30,298
D4	Payment	Payment method in the fitness centre (monthly=1, otherwise=0)	123	0	1	0,19	0,391
D5	Group	Class type: group	123	0	1	0,62	0,488
	Cardio	Class type: cardio	123	0	1	0,41	0,493
	Muscle	Class type: muscle building	123	0	1	0,56	0,498
	SPA	Class type: SPA	123	0	1	0,10	0,298
	PT	Class type: Personal Training	123	0	1	0,06	0,233
	Aquatic	Class type: water sports or therapy	123	0	1	0,11	0,319
D6	Frequency	Frequency of attendance at the fitness centre per week	123	1	8	4,20	7,875
D7	Activity duration	Fitness activity duration (minutes)	123	0	130	77,12	24,603
D8	Second person	How many persons accompany the respondent to the fitness centre	123	0	20	1,33	2,644
D9	Alone	Does the respondent go to the fitness centre alone?	123	0	1	0,52	0,502
	Spouse	Does the respondent go to the fitness centre with husband/wife?	123	0	1	0,07	0,261
	Family	Does the respondent go to the fitness centre with other family members?	123	0	1	0,04	0,198
	Friends	Does the respondent go to the fitness centre with friends?	123	0	1	0,34	0,476
D10	Other gym	Has the respondent used another fitness centre?	123	0	1	0,40	0,492
D11	Return to other	Does the respondent intend to return to a previously used fitness centre? (1-no; 5-highly probable)	123	1	5	1,35	0,735
D12	Recommend	Would the respondent recommend the present fitness centre to family and friends?	123	2	5	4,51	0,728
D13	Satisfaction	The respondent's global satisfaction with fitness centre (1-low; 5-very high)	123	3	5	4,09	0,665

It can be verified that the sample includes 123 observations, which is short for a questionnaire survey, but adequate for a study of a small island. The variables used are listed in the table and defined according to the literature review and the theoretical framework.

## 7 Results

The results of the principal component analysis with Varimax rotation using SPSS software are presented in Table 2.

**Table 2** The principal component analysis – rotated component matrix

<i>ID</i>	<i>Variable</i>	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>
A	Age	-0,368	-0,182	0,526
	Gender	0,005	0,236	-0,317
	Single	0,095	0,061	-0,650
	N children	0,024	-0,034	0,405
	Nationality	-0,086	0,007	-0,157
	Professional	0,154	0,017	0,318
	Income	-0,005	0,038	0,559
	B1	Expectations	0,355	-0,017
Advertising		0,204	-0,005	0,019
Book/Photos		-0,112	-0,287	-0,101
Articles		0,122	-0,213	-0,093
E-mail		-0,066	-0,124	-0,191
Doctor		-0,161	-0,123	-0,125
Internet		0,055	-0,169	-0,110
B2	Friends	0,451	-0,118	-0,010
	Entertainment	0,174	-0,082	0,010
	Transport	0,369	0,015	-0,277
	Local	0,363	-0,041	-0,213
	Facilities	0,543	-0,145	0,042
	Equipment	0,617	-0,097	0,033
	Friendliness	0,562	-0,132	0,003
	Activities	0,579	-0,042	-0,002
	Hygiene	0,515	-0,001	-0,041
	Safety	0,564	-0,040	-0,013
	Lifestyle	0,383	0,014	0,034
	Distance	0,391	-0,064	-0,052
	Competence	0,503	-0,039	-0,048
	Open/Close	0,541	-0,145	-0,043
	Hours	0,416	-0,115	0,148
	Atmosphere	0,515	-0,037	0,043
	Traffic	0,517	-0,004	0,039
	Parking	0,438	-0,099	0,209
	Variety	0,575	-0,138	0,056
	Price	0,384	0,048	-0,148
Clients	0,378	0,076	-0,062	
Reputation	0,266	-0,101	-0,026	
Caring	0,516	-0,211	0,021	

**Table 2** The principal component analysis – rotated component matrix (continued)

<i>ID</i>	<i>Variable</i>	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>
B3	Looks	0,669	0,084	-0,104
	Staff friendliness	0,691	0,104	-0,079
	Staff competence	0,715	0,050	-0,093
	Waiting in reception	0,173	-0,176	-0,436
	Waiting for classes	0,151	-0,119	-0,412
	Waiting equipment	0,205	-0,104	-0,469
	Equipment	0,580	0,044	-0,004
	Hygiene	0,576	-0,076	-0,201
	Safety	0,544	-0,109	-0,212
	Facilities	0,527	0,005	-0,036
	Services	0,601	-0,017	-0,177
	Variety	0,588	-0,094	-0,115
	Open/Close	0,455	-0,024	0,054
	Class time	0,560	-0,099	0,053
	Atmosphere	0,569	0,029	-0,058
	Party	0,549	-0,077	-0,015
	Parking	0,365	-0,069	0,063
	Age equipment	0,516	-0,104	0,022
	Prices	0,457	-0,004	-0,193
	Clients	0,419	0,058	-0,226
B4	Declaration 1	0,692	0,158	-0,012
	Declaration 2	0,651	0,143	0,081
	Declaration 3	0,551	0,169	0,088
	Declaration 4	0,606	0,087	0,127
	Declaration 5	0,549	-0,021	0,086
C1	SWLS1	0,476	-0,134	0,317
	SWLS2	0,405	-0,120	0,395
	SWLS3	0,486	-0,123	0,318
	SWLS4	0,439	-0,104	0,262
	SWLS5	0,286	-0,156	0,343
C2	Interested	0,698	0,203	0,096
	Enthusiastic	0,662	0,144	-0,100
	Excited	0,667	0,297	0,065
	Inspired	0,634	0,256	-0,057
	Determined	0,654	0,146	0,115
	Proud	0,626	0,253	-0,079
	Active	0,659	0,182	0,090
	Delighted	0,675	0,292	-0,110
	Warm	0,529	0,373	-0,043
	Surprised	0,502	0,342	-0,134
Disturbed	-0,085	0,679	0,112	



**Table 2** The principal component analysis – rotated component matrix (continued)

<i>ID</i>	<i>Variable</i>	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>
	Distraught	-0,132	0,793	0,012
	Intimidated	-0,084	0,899	0,036
	Frightened	-0,075	0,907	0,087
	Nervous	-0,059	0,790	-0,050
	Shaky	-0,092	0,924	0,067
	Regretful	-0,084	0,913	0,037
	Guilty	-0,101	0,880	0,071
	Angry	-0,026	0,784	-0,014
	Disgusted	-0,061	0,858	0,049
	Alone	-0,050	0,833	0,012
	Abandoned	-0,105	0,867	0,096
D1	Physical strength	-0,090	0,183	-0,292
	Health	-0,095	-0,028	0,414
	Entertainment	0,280	0,014	0,160
	Aesthetic	0,030	-0,004	-0,201
	Stress	0,081	-0,217	0,215
	Conviviality	0,080	0,012	0,287
	Well-being	0,038	-0,057	0,281
	Professional	0,070	0,279	0,019
D2	Constant	-0,165	0,078	-0,215
D3	Monthly spending	0,238	0,036	0,393
D4	Payment	0,069	-0,200	0,323
D5	Group	0,135	0,044	0,269
	Cardio	-0,189	0,141	-0,108
	Muscle	-0,132	0,137	-0,397
	SPA	0,070	0,031	0,418
	PT	0,183	0,006	0,204
	Aquatic	0,012	0,008	0,401
D6	Frequency	0,171	-0,048	-0,057
D7	Activity duration	-0,016	0,117	-0,032
D8	Second person	0,048	-0,015	0,139
D9	Alone	-0,327	-0,008	-0,114
	Spouse	0,162	-0,069	0,112
	Family	0,098	-0,104	-0,016
	Friends	0,260	0,100	0,065
D10	Other gym	0,217	0,137	0,056
D11	Return to other	-0,093	0,026	0,054
D12	Recommend	0,109	-0,185	0,010
D13	Satisfaction	0,517	0,182	-0,033

Three principal components emerge from the results, the first of which depicts the satisfaction with the fitness centre. The variables that define this factor are: *staff members' friendliness, staff members are helpful, the instructors are competent, I feel happy when I am at my fitness centre, I am satisfied with my fitness centre, interested, enthusiastic, excited, determined, active and delighted*. The second component reveals the dissatisfaction with the fitness centre. This factor is defined by the following variables: *disturbed, distraught, intimidated, frightened, nervous, shaky, regretful, guilty, angry, disgusted, alone and abandoned*. The third component is the unmarried, unattached consumer, which is defined by the variable *single*.

## 8 Discussion

How do we interpret this result? There are three independent factors, namely, one for happiness, another for unhappiness and the third, for the single persons. Therefore, it is concluded that there are three independent segments evident in Madeira's fitness centres. The first segment consists of the satisfied individuals, who are very positive in their approach to life. The second segment comprises the unhappy individuals, whose approach is very negative. Finally, there are the unmarried, unattached individuals. This result signifies that there are three strongly distinct groups of individuals practicing sports in the fitness centres of Madeira, but since the distinctions are of a psychological nature, they are difficult to observe in reality. These findings lead to the following question: how can the fitness centre managers benefit from the findings? The answer is that the management can target any of these segments by adopting an homogenous policy towards their potential clientele with regard to fitness training.

## 9 Limitations and extensions

At this juncture, it is appropriate to consider the contribution of our paper to the economics management literature on sport, as well as the study's limitations and possible extensions. The key contribution is its application of the principal component model to the fitness industry, supported by a theoretical model of economic behaviour.

This paper has two sets of limitations: firstly, those related to the data set and secondly, those that arise as a result of the methodology.

With reference to the data set, the fact that the data set is short signifies that the conclusions are limited. In order for the latter to be more generalised, we would need to have a larger panel data set. Reducing the number of observations in the factor variables increases the likelihood that we would obtain unreliable results.

Turning to the factor model, the limitations stem from the fact that factor analysis does not impose any functional form on the data, nor make any distributional assumptions for the variables. However, it is a technique that is used in marketing to segment clusters.

A variety of extensions can be undertaken in relation to this paper. Firstly, survival analysis can measure the determinants of the time spent in the fitness centre. Structural equation models can also be used to analyse the functional relationships between the variables.

## 10 Conclusions

In this paper, we have analysed the segments in a representative sample of fitness centre consumers based on a questionnaire survey conducted in Madeira in 2007. The principal components model identifies three distinct segments in the data. The first is the 'happy' segment, the second is the 'unhappy' segment and the third is comprised of the single, unattached consumers. We conclude that the management of the fitness centres can benefit by devising the appropriate marketing strategies aimed towards these groups of consumers. More research is needed to confirm these results.

## References

- Ajzen, I. and Fishbein, M. (1980) *Understanding Attitudes and Predicting Social Behaviour*, Englewood Cliffs, NJ: Prentice Hall.
- Alderfer, C. (1972) *Existence, Relatedness, and Growth*, New York: Free Press.
- Alexandris, K., Dimitriadis, N. and Kasiara, A. (2001) 'The behavioural consequences of perceived service quality: an exploratory study in the context of private fitness clubs in Greece', *European Sport Management Quarterly*, Vol. 1, No. 4.
- Anderson, E. and Fornell, C. (1994) 'A customer satisfaction research prospectus', in R. Rust and R. Oliver (Eds.) *Service Quality: New Directions in Theory and Practice*, Thousand Oaks: Sage Publications, pp.241–268.
- Baker, D. and Crompton, J. (2000) 'Quality, satisfaction and behavioural intentions', *Annals of Tourism Research*, Vol. 27, pp.785–804.
- Barros, C. and Gonçalves, C. (2008) 'Investigating individual well-being in health fitness training centre', *International Journal of Sport Marketing and Management* (this issue).
- Biddle, S. and Smith, R. (1991) 'Motivating adults for physical activity: towards a healthier present', *Journal of Physical Education, Recreation & Dance (JOPERD)*, Vol. 62, No. 7, pp.39–43.
- Cashdan, E. (1998) 'Are men more competitive than women?', *Br J Soc Psychol*, Vol. 34, pp.213–229.
- Castellani, W., Ianni, L., Ricca, V., Mannucci, E. and Rotella, C. (2003) 'Adherence to structured physical exercise in overweight and obese subjects: a review of psychological models', *Eating and Weight Disorders*, Vol. 8, No. 1, pp.1–11.
- Chang, K. (1998) 'A systems view of quality in fitness services: development of a model and scales', Unpublished Doctoral dissertation, The Ohio State University.
- Chelladurai, P. and Chang, K. (2000) 'Targets and standards of quality in sport services', *Sport Management Review*, Vol. 3, pp.11–22.
- Cohen, E. (1972) 'Toward a sociology of international tourism', *Social Research*, Pearce, Vol. 39, pp.164–182.
- Correia, A. (2000) 'A qualidade como factor estratégico dos serviços de desporto', in A. Correia, C. Costa, P. Mamede and A. Sacavém (Eds.) *Serviços de qualidade no desporto: Piscinas, Polidesportivos e Ginásios*, Lisboa: Centro de Estudos e Formação Desportiva da Secretaria de Estado do Desporto, pp.9–28.
- Cronin, J. and Taylor, S. (1992) 'Measuring service quality: re-examination and extension', *Journal of Marketing*, Vol. 56, pp.55–68.
- Cruz, C. and Carvalho, O. (1998) *Qualidade uma filosofia de gestão*, Lisboa: Texto Editora.
- Daniel, K. and Johnson, L. (2004) 'Pricing a sporting club membership package', *Sport Marketing Quarterly*, Vol. 13, No. 2, pp.113–116.

- Deci, E. and Ryan, R. (1985) *Intrinsic Motivation and Self Determination in Human Behaviour*, New York: Plenum.
- Duda, J. (1991) 'Motivating older adults for physical activity: it's never too late', *Journal of Physical Education, Recreation, and Dance*, September, pp.44–48.
- Duda, J. (1993) 'Goals: a social cognitive approach to the study of achievement motivation in sport', in R.N. Singer, M. Murphy and L.K. Tennant (Eds.) *Handbook of Research on Sport Psychology*, New York: McMillan, pp.421–427.
- Fishbein, M. and Ajzen, I. (Eds.) (1980) *Predicting and Understanding Consumer Behaviour: Attitude Behaviour Correspondence*, Prentice Hall.
- Frederick, C. and Morrison, C. (1996) 'Social physique anxiety: personality constructs, motivations, exercise attitudes, and behaviours', *Perceptual and Motor Skills*, Vol. 82, pp.963–972.
- Frederick, C. and Ryan, R. (1993) 'Differences in motivation for sport and exercise and their relations with participation and mental health', *Journal of Sport Behaviour*, Vol. 16, pp.124–146.
- Gray, S. (1977) 'Social aspects of body image: perception of normalcy of weight and affect of college undergraduates', *Perceptual and Motor Skills*, Vol. 45, pp.1035–1040.
- Green, B. (1997) 'A social learning approach to youth sport motivation: initial scale development and validation', *Dissertation Abstracts International – Section A: Humanities and Social Sciences*, Vol. 57, No. 9, p.4128.
- Greenwell, T., Fink, J. and Pastore, D. (2002) 'Perceptions of the service experience: using demographic and psychographic variables to identify client segments', *Sport Marketing Quarterly*, Vol. 11, No. 4, pp.234–242.
- Grönroos, C. (2000) *Service Management and Marketing: A Client Relationship Management Approach*, Baffins Lane, Chichester: John Wiley & Sons Ltd.
- Gupta, N. and Shaw, J. (1998) 'Let the evidence speak: financial incentives are effective!!', *Compensation and Benefits Review*, Vol. 26, March–April, pp.28–32.
- Herzberg, F., Mausner, B. and Snyderman, B. (1959) *The Motivation to Work*, 2nd ed., New York: John Wiley & Sons.
- Howarth, J. and Sheth, J. (1969) *The Theory of Buyer Behaviour*, New York: John Wiley and Sons.
- Judge, T. (1993) 'Does affective disposition moderate the relationship between job satisfaction and voluntary turnover?', *Journal of Applied Psychology*, Vol. 78, No. 3, pp.395–401.
- Kim, C. and Kim, S. (1998) 'Segmentation of sport centre members in Seoul based on attitudes toward service quality', *Journal of Sport Management*, Vol. 12, pp.273–287.
- Kotler, P. (2000) *Marketing Management*, USA: Prentice-Hall.
- Lindon, D., Lendrevie, J., Rodrigues, J. and Dionisio, P. (2000) 'Mercator 2000', *Teoria e prática de marketing*, 9th ed., Lisboa: Publicações Dom Quixote.
- Luna-Arocas, R. (1999) 'Marketing y deporte: La escala MODE de motivaciones deportivas', *Congreso de Alto Rendimiento*, University of Valencia, Valencia, Spain.
- Luna-Arocas, R. and Tang, T. (2004) 'The love of money, satisfaction, and the Protestant work ethic: money profiles among university professors in the USA and Spain', *Journal of Business Ethics*, Vol. 50, No. 4, pp.329–354.
- Maslow, A. (1970) *Motivation and Personality*, 2nd ed., New York: Harper.
- McAuley, E., Duncan, T. and Tammen, V. (1989) 'Psychometric properties of the intrinsic motivation inventory in a competitive sport setting: a confirmatory factor analysis', *Research Quarterly for Exercise and Sport*, Vol. 60, pp.48–58.
- McClelland, D. (1984) *Human Motivation*, New York: Scott, Foresman.
- McDonald, M., Milne, G. and Hong, J. (2002) 'Motivational factors for evaluating sport spectator and participants markets', *Sport Marketing Quarterly*, Vol. 11, No. 2, pp.100–113.

- Murray, D. and Howat, G. (2002) 'The relationship among service quality, value, satisfaction and future intentions of clients at an Australian sports and leisure centre', *Sport Management Review*, Vol. 5, pp.25–43.
- Oman, R. and McAuley, E. (1993) 'Intrinsic motivation and exercise behaviour', *Journal of Health Education*, Vol. 24, No. 4, pp.232–238.
- Ostrom, A. and Iacobucci, D. (1995) 'Consumer trade-offs and the evaluation of services', *Journal of Marketing*, Vol. 59, No. 1, pp.17–28.
- Parasuraman, A., Zeithaml, V. and Berry, L. (1988) 'SERVQUAL: multiple-item scale for measuring consumer perceptions of service quality', *Journal of Retailing*, Vol. 64, pp.12–40.
- Pearce, P. (1985) 'A systematic comparison of travel-related roles', *Human Relations*, Vol. 38, pp.1001–1011.
- Pelletier, L., Fortier, M., Vallerand, R., Tuson, K., Briere, N. and Blais, M. (1995) 'Toward a new measure of intrinsic motivation, extrinsic motivation, and amotivation in sports: the Sport Motivation Scale (SMS)', *Journal of Sport and Exercise Psychology*, Vol. 17, pp.35–53.
- Pfeffer, J. (1998) 'Six dangerous myths about pay', *Harvard Business Review*, May–June, pp.108–119.
- Pires, A. (2000) *Qualidade – Sistema de gestão da qualidade*, Lisboa: Edições Sílabo Lda.
- Pires, G., et al. (2004) 'Gestão do Desporto – Novos Desafios Diferentes Soluções', *Cultura e Desporto*, Centro de Estudos dos Povos e Culturas de Expressão Portuguesa, Universidade Católica Portuguesa, Lisboa, No. 9.
- Quaresma, L. (2003) *A qualidade de serviços desportivos como factor estratégico*, Associação Portuguesa de Gestão do Desporto.
- Rust, R. and Oliver, R. (1994) 'Service quality: insights and managerial implications from the frontier', in R. Rust and R. Oliver (Eds.) *Service Quality: New Directions in Theory and Practice*, Sage Publications, Inc., pp.1–17.
- Ryan, R. and Deci, E. (2000) 'Intrinsic and extrinsic motivations: classic definitions and new directions', *Contemporary Educational Psychology*, Vol. 25, pp.54–67.
- Staw, B., Bell, N. and Clausen, J. (1986) 'The dispositional approach to job attitudes: a lifetime longitudinal test', *Administrative Science Quarterly*, Vol. 31, pp.56–77.
- Tang, T., Ibrahim, A. and West, W. (2002) 'Effects of war-related stress on the satisfaction of human needs: the United States and the Middle East', *International Journal of Management Theory and Practices*, Vol. 3, No. 1, pp.35–53.
- Tang, T. and West, W. (1997) 'The important of human needs during peacetime, retrospective peacetime, and the Persian Gulf War', *International Journal of Stress Management*, Vol. 4, No. 1, pp.47–62.
- Teixeira, M. (2000) 'O consumo de serviços desportivos', *Revista Horizonte*, Vol. XVI, No. 93, pp.3–11.
- Theodorakis, N., Costa, G. and Laios, A. (1998) 'What finally service quality really means for sport managers', *Minutes of the 6th European Association for Sport Management*, Madeira: Portugal, pp.1.1–1.5.
- Theodorakis, N. and Kambitsis, C. (1998) 'The effect of service quality on the sport consumer's behavioural intentions', *Minutes of the 6th European Association for Sport Management*, Madeira: Portugal, pp.2.71–2.77.
- Tinsley, H. and Tinsley, D. (1982) 'A holistic model of leisure counseling', *Journal of Leisure Research*, Vol. 14, pp.100–116.
- Yannakis, A. and Gibson, H. (1992) 'Roles tourists play', *Annals of Tourism Research*, Vol. 19, pp.287–303.
- Zeithaml, V., Berry, L. and Parasuraman, A. (1996) 'The behavioural consequences of service quality', *Journal of Marketing*, Vol. 60, pp.31–46.
- Zeithaml, V. and Bitner, M. (2000) *Services Marketing: Integrating Clients' Focus Across Firms*, New York: McGraw-Hill.