

Article

An Analysis of the Determinants of Sport Expenditure in Sports Centers in Spain

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Abstract: The sports center sector is undergoing a complete transformation. Knowing users' behavior regarding sport expenditure is needed to be able to act in terms of the future of the sector. This study analyzes the expenditure of people in Spain who are members of sports centers. Adult members were asked about their sport expenditure in several defined categories. An analysis of variance (ANOVA) and a multiple logistic regression analysis were carried out. The results show that the variables of time of participation, federation membership, and income have predictive value in terms of sport expenditure. Age and educational level also explain the significant differences in sport expenditure in its different categories. This study suggests the importance of identifying the behavior of sports center users with reference to sport expenditure as an essential component of the future strategy of the sector.

Keywords: sport expenditure; sports centers; sport participation

1. Introduction

The European health and fitness sector serves 62.2 million consumers who generate 27,200 million euros in income and frequent 61,984 sports installations [1]. With an increase in market share of 1.2% of income and 4.6% more sports centers than the previous financial year, Europe has emerged as the world's leading market in terms of health and fitness. Of the total income, 65% of the sector is attributable to Germany, the UK, Italy, France, and Spain [1]. Despite the beneficial effect of sporting activity, the COVID-19 pandemic has paralyzed the sports sector. This has prompted the need to analyze customers' annual expenditure on sports and to find out what the determinant factors of this expenditure are to be able to devise new strategies to boost the sector.

The financial situation of the sports centers in Spain suffered a heavy blow when an increment in the value-added tax (VAT) added to members' fees was introduced at the end of 2012 [2]. The increase from 8% to 21% had a huge impact on the sector. According to Rodríguez-Cañamero [2], the effect was to polarize the sector, leading to the emergence of new business models, such as those known today as low-cost or premium models, among others.

Despite this drop in the trading margin, the sector remained competitive and continued to expand. It is estimated that there are over 5.3 million sporting installation users, a figure equivalent to 11.4% of the total population. There are 4650 sports clubs in operation in Spain, with different business models ranging from chains that offer low-cost services to franchises in sports centers (a peculiarity of the Spanish market) that facilitate cooperation with the public sector, as well as to boutique centers [1]. The importance of sports in the economic sector has consequently significantly increased in recent years to represent 1.25% of GDP, a figure that demonstrates how the fitness industry, in terms of both the service and the industry, contributes significantly to the financial wellbeing of Western countries [3].

The debate about the expediency and penetration of sporting activity in the population has uncovered the fact that, in some cases, family income has been a barrier to access to sports centers. Low-income and large families have expressed their inability to take part in sports, despite the many policies implemented by governments to prevent this effect [4]. Sports not only have an important role to play in the Sustainable Development Goals up to 2030 [5], but they are also linked to all the objectives laid out by the UN.

Within this context, various empirical studies aimed at determining the socioeconomic patterns associated with sporting activity and the expenditure allocated to it have been carried out [6]. The analysis of the determinants of individual decisions related to sports is important for the authorities. Not only do sports have positive effects on health, with the physical activity engaged in by the population potentially reducing public health expenditure, but watching sports can be beneficial for social integration and economic development [6].

Despite what the international community advocates to this effect [7], the reality is that the poverty indices have increased the likelihood of low-income families being excluded from taking part in sporting activity [8]. Rising income inequality in almost every Western country [9] has resulted in lower participation rates, as demonstrated by Veal [10]. Previous studies have shown that greater purchasing power, a higher educational level, high levels of participation, and more time practicing sporting activity have a positive effect on sports [3,11]. Regarding the income associated with sports clubs, the trend in the proportion made up of state subsidies is falling, while the proportion attributable to the members has incrementally risen.

Following the line of investigation started by Wicker, Breuer, and Pawlowski [11], the present study contributes to the research on user expenditure on sports. The objective is to know the annual expenditure of sports center users and its determinant factors. The results will inform sports center managers of the expenditure profile of their users, enabling them to propose sustainable business models that mean that they can survive the crisis we are currently facing. Most of the studies examining the influencing factors of sports consumption have focused on individual expenditure [11–14]. While the sector's future is uncertain, studies like this one are helping to design much needed recovery strategies, particularly in this difficult time.

1.1. Sport Expenditure

The analysis of sport expenditure is no easy task, with its heterogeneous composition adding to the difficulty [12]. According to Lera-López and Rapún-Gárate [12], this is explained by there being no general definition of the term 'sport expenditure' and no common agreement on what expenditure categories these variables are included in. However, there does seem to be a majority agreement on some of the categories of sport expenditure, such as membership and entrance fees, equipment and clothing, and training fees—the three variables that refer to direct consumption, also referred to as active expenses. Another difficulty identified is that this variable is focused on sport expenditure at the global level, without differentiating between categories or types of expenditure [11]. In this regard, over the years, some authors have introduced variables related to passive expenses, such as sports bets, entrance tickets for sporting events [15], and private medical insurance [16], into the analysis of 'sport expenditure'. Meanwhile, other studies consider all expenses, be they direct or indirect. Following this line of study, all the expenses incurred by members of sports clubs are included in the sport expenditure variables.

Among the economic theories that analyze sports participation, Ref. [17] provides an overview, differentiating between the orthodox and the heterodox approaches. The orthodox theories have focused on the traditional economic demand theory, which determines that sporting demand is based on the price, the prices of other complementary and substitute products, income, and preferences [14], while the heterodox approaches are based on the assumption that consumption does not depend solely on the price, but that the emotions of the consumer, social interactions, and the user's lifestyle also affect sport expenditure [3].

More specifically, within the framework of sport expenditure, the theory most applied in the academic literature is Becker's (1965, 1981) household production theory [18], which comes under the orthodox perspective. Becker's theory holds that economic decisions are restricted by both the available income and the available time. In the area of sports consumption, it has been applied to the exploration of the determinants of the time [19–21] and money [11] spent on sports participation. Like in other studies on expenditure on sports, we considered the sample at the individual level [12–14]. However, we also considered the number of household expenditure studies [3,4,22,23].

Some studies have investigated sport expenditure between the year 2000 and the present time and includes the breakdown of the effect the determinants have on it (please see the supplement [11]). In general, total expenditure on sport has been shown to vary from less than 50 EUR [24] to over 1600 EUR [11]. Most of the studies analyzed were conducted in European countries, such as Flanders [3,4,23,25], Norway [26], Germany [11,22,24,27–30], England [31], and Spain [12,32], while others were from countries like Canada [33,34] and China [35]. The different objects of investigation in the area of sport expenditure also explain the varying approaches used by researchers. Some have analyzed it through households [3,22,24,25,29,31,34,35], while others have focused their studies on the sportsmen [12,24,27,35] or the active adults [11].

1.2. Explanatory Variables of Sport Expenditure

Previous studies on sport expenditure have argued that the type of sport and people's motivations are important expenditure determinants. Wicker, Breuer, and Pawlowski [11] asked adult members that were active in 21 different sports about their sport expenditure with respect to several defined categories. For instance, running seems to be cheaper than mountain biking [36,37]. In addition, motivation plays an important role in explaining variance in sporting event expenditure [37,38]. Related to small-scale events, some studies also analyzed the determinants of the marathoners' expenditures [39,40].

Wicker, Breuer, and Pawlowski [11] show that people with a high income, a high educational level, a high level of participation, and a high time investment (years of participation) have a high level of sport-related expenditure [11]. Studies have frequently shown that men and young people tend to spend more money on sports [4,12,23,24]. Furthermore, the age of the householder, marital status, country of origin, and being a member of a sports club have also been identified as determinant variables of sport expenditure [25].

Concurring with the household production theory [18], expenditure rises in line with income, capital, and time. Thibaut et al. [3] analyzed four factors: income, educational level, time of participation, and age. In the study of Ref. [4], three factors were analyzed: income, women, and educational level. Thibaut (2020) [23] identified five variables as references in their recent work: income, gender, age, educational level, and time of participation. Wicker et al. analyzed seven factors in their theoretical model: income, human capital (educational level), level of performance, time, age, and gender. We considered seven reference variables that explain the theoretical model. Their effect on the variable of sport expenditure is examined below based on the literature review.

Studies have shown that there is a relationship between income and consumption of sports [11, 12,22–24,26,28,30,32]. It has been demonstrated that people with a higher income spend more on sports [11,12,22–24,26,28,30,32]. Income also has a positive influence on the amount of money spent [23]. Therefore, income positively affects the decision to spend money on sports and the amount spent on sports [23].

Human capital, represented by educational level, is the second variable of the household production theory. Studies have concluded that the higher the educational level, the higher the sport expenditure. This is explained by the fact that these people are more aware of the benefits to health of physical activity [11,12].

Becker's theory identifies the time involvement in sports participation as another relevant factor. In this study, the definition of the concept established by Wicker et al. [11], where "it is assumed that active sports club members have the time (or take the time) to do sports in their club", was considered.

Regarding sports centers, it is considered that this variable has two aspects. The first is directly the one that measures 'time of participation', and includes the exercise and training done in hours per week. The second is related to loyalty to the center, measured by the length of time the individual has been going to the sports center. Previous studies have concluded that there is a positive relationship between 'time of participation' and sport expenditure [3,11,23]. It is assumed that doing sports over a long period of time leads to users buying more sporting goods. The deterioration over time of these goods and their replacement must also be considered.

The work of Taks and colleagues [16] enables us to confirm that members of sports clubs spend more money on sports than those who are not members of a sports club. This affirmation can be extrapolated to include the variable 'member of a federation', which allows us to observe behavior. The fact of being a member of a federation indicates a greater involvement with the sport and enables us to examine the existing relationship between this and the economic cost of doing the sport. To the best of our knowledge, this is the first study to take this variable as a determinant of sport expenditure.

Aside from the variables included in Becker's theory, studies have shown that there are others that influence sport expenditure, all of which are related to sociodemographic aspects. Age is a determinant factor of sport expenditure, despite there being no clear conclusion to this effect. The work of Thibaut et al. [23] shows that older people spend more, a relationship that is explained by their generally having higher incomes. However, other studies conclude that young people spend more on sports [13], while some do not reach any clear conclusions about the relationship between these variables [12,14].

Gender is another factor that is capitalized on by many studies. Empirical results indicate that men and young people have higher sport expenditure than women and older people [12,23,28,31]. However, Ref. [11] showed that women with a high income and a low educational level and who exercise for many hours per week (time of participation) spend more money on sports.

2. Materials and Methods

2.1. Participants and Process

A non-probabilistic snowball sampling was used. In this form of sampling, researchers find participants and ask them to recruit other sample subjects [41]. The recruitment was composed of 7299 subjects (59.6% women and 40.4% men). However, at the time of the statistical analysis, this sample was smaller, at 902 subjects, because not all the individuals answered all the questions.

The definition of the sample and the application of the questionnaire were carried out between December 2018 and February 2019. We contacted the directors of sports clubs in Spain, and those who decided to participate sent emails to their members giving them the option to respond to the survey. The questionnaire was distributed online. The link to access the online questionnaire was sent to members by the sports club management, and it was posted on Internet forums, on the homepages of sports club, and on their social networks. However, it should be noted that some people were not familiar with the Internet, and in these cases, a survey was also conducted in written form.

2.2. Instruments or Measures

The methodology of the study was quantitative, based on the statistical analysis of a social survey as a primary information source. Our questionnaire was part of a larger one entitled "Consumer Profile Survey of Sports Facilities", which had five sections: (1) questions about sport habits; (2) questions related to sports club users' motivation, consumption, and perception; (3) health variables; (4) questions on socioeconomic characteristics; and (5) sociodemographic questions. For this study, we selected some of the variables to achieve the stated objectives.

The questionnaire battery was prepared using original versions or by adapting different questionnaires or scales. The questions in sections 1, 2, 3, and 5 of the questionnaire battery, explained

before, were adaptations of the Spanish sports habits survey [42]. For step 4, which is more related to economic questions, a questionnaire proposed by Wicker, Breuer, and Pawlowski [11] was followed.

2.3. Variables

Eight variables were selected for this study: sport expenditure, income, educational level, months of loyalty, federation membership, time of participation, age, and gender. Sport expenditure is a dependent variable, and it was calculated as the monthly sum in euros of all the categories of sport expenditure. As independent variables, we used personal net income in euros per month, educational level, the number of months the person had been a member of the club, if the person had been a member of a sports federation at some point in their life, number of hours of training/exercise per week, age, and gender (Table 1).

Table 1. Operationalization and characteristics of the variables.

Short Form	Variable	Operationalization/Code	Scale
Dependent variables			
SE	Sport expenditure	Monthly sum in euros of all the categories of sport expenditure	Ordinal
Independent variables			
Household economic factors			
Y	Income	Personal net income in EUR per month; from 1 (up to 250 EUR) to 9 (more than 3000 EUR)	Ordinal
EL	Educational level	Educational level; from 1 (did not get the school leaving certificate) to 7 (PhD)	Ordinal
Sport-specific consumption capital			
YL	Months of loyalty	Number of months the person had been a member of the club	Ordinal
FP	Federation membership	If the person had been a member of a sports federation at some point in their life	Dummy
TP	Time of participation	Number of hours of training/exercise per week	Ordinal
Target group specific factors			
G	Gender	1 (female), 2 (male)	Dummy
A	Age	Age in years	Metric

2.4. Data Analysis

Three types of analysis were carried out: (1) descriptive analysis using the means and standard deviation (SD) (Table 2); (2) differences between groups using analysis of variance (ANOVA), since there were more than two groups, and analysis of the differences between pairs of groups using the Bonferroni test; (3) a multinomial logistic regression model. A level of significance of $p < 0.05$ was established. Three methods were carried out using the Statistical Package for the Social Sciences (SPSS 26) software.

Table 2. Characteristics of the sample.

Variables	Percent	Mean
Gender		
Men	40.6	
Women	59.4	
Age (Mean)		42.85 years (SD 18.1)

Table 2. Cont.

Variables	Percent	Mean
Time of participation (Mean)		211 min per week (SD 109.0)
Federation membership		
Yes	38.5	
No	61.5	
Educational level		
No qualifications	0.8	
Finished primary school	5.0	
Finished secondary school	16.5	
Intermediate vocational training (CFGM)	9.5	
Higher vocational training (CFGS)	15.3	
Bachelor's degree/diploma	39.8	
Master's	11.6	
PhD	1.5	
Months of loyalty		
<3 months	15.1	
3–6 months	15.1	
6–12 months	11.7	
1–2 year	18.1	
>2 year	40.0	
Sport expenditure		
0 EUR	9.9	
1–10 EUR	9.4	
11–45 EUR	45.8	
46–180 EUR	31.8	
181–360 EUR	2.5	
361–751 EUR	0.3	
>751 EUR	0.3	
Income		
<250 EUR	13.8	
251–500 EUR	3.6	
501–750 EUR	4.9	
751–1000 EUR	9.9	
1001–1500 EUR	26.5	
1501–2000 EUR	20.3	
2001–2500 EUR	11.3	
2501–3000 EUR	4.7	
>3000 EUR	4.9	

The analysis of variance (ANOVA) of a factor helps to compare a quantitative variable that has multiple response categories. This test is a generalization of the equality of means test for independent samples. It is applied to contrast the equality of means of three or more independent populations with a normal distribution. Assuming three or more independent populations with a normal distribution and K independent populations, the hypotheses to test are:

Hypothesis 0 (H0). $\mu_1 = \mu_2 = \dots = \mu_k$: Population means are equal.

Hypothesis 1 (H1). At least two population means are different.

Assuming that the null hypothesis is true, then the statistic used in the analysis of variance follows a Fisher–Snedecor distribution with $k-1$ and nk degrees of freedom, where K is the number of samples and n is the total number of observations included in the study.

Multinomial logistic regression was used in the final stage of the statistical analysis. A multiple regression model is a parametric model. Regression analysis is one of the most used traditional forecasting/prediction techniques, identifying causality between dependent and independent (explanatory) variables. The regression coefficients were estimated according to the observations. Correlations between predictors were controlled to avoid multicollinearity problems (the correlation coefficient of the explanatory variables should not exceed 0.7) [43–45].

In essence, multinomial logistic regression usually transforms logistic regression into a multinomial problem using the classification method. In a more technical sense, it is usually used to predict the probability of different outcomes for a categorically dependent variable, and to determine which category the research subject is inclined to choose.

In this study, sport expenditure as a dependent variable had many levels with no orders. Therefore, the simplest and most popular discrete choice model, multinomial logistic regression, was used to analyze the influence of the independent variables on the different types of sports expenditure strategies [46].

3. Results

The approximate expenditure of individuals in the different categories, differentiated between direct and indirect consumption and their physical activity in the sports centers, and expressed in percentages depending on the expenditure interval, is shown in Table 3.

Table 3. Users' direct and indirect expenditure on sport.

	Less than 50 EUR/year	Between 50–100 EUR/year	Between 101–300 EUR/year	Between 301–500 EUR/year	Between 501–750 EUR/year	More than 750 EUR/year	N/A
Personal Trainer	59.8%	1.0%	1.3%	0.9%	0.5%	1.0%	35.5%
Purchase of sports clothes	17.4%	27.9%	17.5%	3.7%	0.8%	0.3%	32.4%
Purchase of sports shoes	16.7%	29.0%	18.7%	2.8%	0.3%	0.2%	32.3%
Purchase of sports equipment	36.3%	19.1%	7.9%	2.0%	0.5%	0.4%	33.8%
Transport to the sports center	46.5%	10.3%	6.2%	1.9%	0.5%	0.4%	34.2%
Consumption of sports foods	46.2%	8.5%	6.6%	2.4%	0.9%	1.0%	34.4%
Active participation in social activities related to sports	50.9%	8.3%	4.4%	1.1%	0.3%	0.4%	32.9%
Attending sporting events and shows	49.1%	8.3%	5.0%	1.7%	0.7%	0.5%	34.7%
Membership fees of other sports clubs	52.7%	4.6%	3.5%	2.0%	0.9%	0.9%	35.4%
eSports	59.2%	2.7%	1.2%	0.5%	0.1%	0.1%	36.2%
Other expenditures related to sports	52.3%	6.6%	3.3%	1.0%	0.4%	0.7%	35.7%

Note: The shaded rows are the direct consumption. The white rows are the indirect expenditures.

3.1. Differences of Means: ANOVA

One of the objectives of this study was to show that there are different behaviors regarding sport expenditure depending on gender, age, each person's individual income, the time spent doing physical activity, loyalty to the sports center to which they belong, and the level of involvement in the sport (Table 4).

Table 4. Analysis of variance (ANOVA).

	F	p Value
Number of months the person has been a member of the sports center (YL)	2.520	0.019
Training/exercise in minutes per week (TP)	24.282	0.000 **
If the person has been a member of a sports federation at some point in their life (FM)	30.555	0.000 **
Income (Y)	23.889	0.000 **
Gender (G)	1.884	0.081
Educational level (EL)	3.536	0.002 **
Age (A)	3.453	0.002 **

Note: ** $p < 0.05$.

3.2. Multinomial Logistic Regression

A multiple linear regression was performed between sport expenditure (the dependent variable) and income, educational level, federation membership, time of participation, loyalty in months, age, and gender (independent variables). The regression model for all sports took all the factors from the theoretical model into account.

Table 5 shows the measurement of the likelihood ratio, which tests the overall fit of the model. This allowed us to affirm that the model is useful for predicting the probability of occurrence of the sport expenditure categories. The value of the χ^2 of the empirical model to which the likelihood ratio approximates is 180.952 with 138 degrees of freedom, which is a significant value. These results mean that we can reject the null hypothesis that says that all the coefficients of the model, except for the constant coefficient, are zero, with an error probability of 5%. Regarding the goodness of fit, the significance of the model is more than 0.05, indicating that the model is suitable for the fit of the data. Finally, another of the measures of global fit quantifies the proportion of the variance explained by the logistic regression model obtained. Nagelkerke's R-square calculation shows that the predictive effectiveness of the categories of the dependent variables is 19.7%, indicating that the independent variables influence sport expenditure.

Table 5. Overall fit of the model.

Model	-2 log Verisimilitude	χ^2	d.f.	Sig.
Only the intercept	2309.578			
Final	2128.626	180.952	138	0.008

The results of the likelihood ratio comparison tests contained in Table 6 indicate that the variables of the model that show significant predictive capacity are: time of participation, federation membership, and income.

The results of the classification are shown in the confusion matrix (Table 7). From this table, we can basically draw conclusions about the predictive effectiveness of the model from the interval of expenditure between 11 and 45 EUR because, as can be observed, 95% of the cases analyzed are correctly classified, with the sport expenditure coinciding with that predicted by the model. The rest of the groups have limitations, which are the low numbers of individuals and the fact that the breadth of the intervals is larger than the ideal.

Table 6. Likelihood ratio comparisons.

Model	Action	Effect(s)	−2 log Verisimilitude	χ^2	Degrees of Freedom	Sig.
0	Introduced	Intersection	2128.626	0.000		
1	Introduced	A	2139.738	11.112	6	0.085
2	Introduced	TP	2162.554	33.928	6	0.000 **
3	Introduced	ML	2148.130	19.504	24	0.725
4	Introduced	FM	2144.640	16.014	6	0.014 **
5	Introduced	Y	2301.885	173.258	48	0.000 **
6	Introduced	G	2131.187	2.561	6	0.862
7	Introduced	EL	2179.011	50.386	42	0.176

Note: A = age; TP = time of participation; ML = loyalty in months; FM = federation membership; Y = income; G = gender; EL = educational level. ** $p < 0.05$.

Table 7. Classification of sport expenditure.

Observed	Forecast							Correct Percentage
	Nothing	1–10 EUR	11–45 EUR	46–180 EUR	181–360 EUR	361–751 EUR	>751 EUR	
Nothing	4	0	100	6	0	0	0	3.6%
1–10 EUR	1	0	91	3	0	0	0	0.0%
11–45 EUR	0	0	435	23	0	0	0	95.0%
46–180 EUR	0	0	178	38	1	0	0	17.5%
181–360 EUR	0	0	9	6	0	0	0	0.0%
361–751 EUR	0	0	3	2	0	0	0	0.0%
>751 EUR	0	0	2	0	0	0	0	0.0%
Global percentage	0.6%	0.0%	90.7%	8.6%	0.1%	0.0%	0.0%	52.9%

4. Discussion

The objective of the present study was to know the expenditure of the members of sports centers and to establish which factors determine this expenditure.

According to Spain's Sport Statistics Yearbook [47], the sport expenditure of the Spanish population has reached 5526.7 million euros, which represents 1% of the total expenditure on household goods and services. The average expenditure per household on goods and services linked to sports was 296.7 EUR, and the average per-person expenditure was 119.4 EUR. These results are in line with those of the present study, with almost 60% of the population spending less than 100 EUR per month on direct and indirect expenditures related to sports. It must be noted that there are two concepts of expenditure inherent to sport expenditure that are above this average: the purchase of sports clothes and sports footwear. To this effect, 20% of users allocate between 100 and 300 EUR to these purchases. The reason for this difference is explained by the need to have these products to do sports at any level.

With the application of ANOVA and, later, a multiple logistic regression, the results of the likelihood ratio comparison tests indicated that the variables of the model that have a significant predictive capacity are the time of participation, federation membership, and income.

The variable of time of participation is one that shows that there are significant differences in the expenditure allocated to sports. Concurring with [3,11,23], the people that spend more time doing sports spend more money on this activity. Hence, those that spend more than 10 EUR per month on sports do an average of 190 min of sports per week, while those that spend more than 360 EUR per month on sports do sports for 316.25 min.

The level of involvement in sports follows the same pattern. People who have been a member of a sports federation at some time in their life and for whom sports, therefore, have played an important

role allocate more money to this activity. There are various explanations for this affirmation. First, federated sports re directed towards professionalization. Their higher level of involvement means that they are more demanding in terms of the quality of the articles they purchase and/or that they consume more sporting products. Their involvement in the activity leads to higher expenditure on it. Another variable connected with involvement is the number of months of membership of the sports center, or loyalty. The result is the same as for involvement, with the people who have been members of a sports center for longer investing more money in purchasing sports products and services, although in this case, there are no significant differences between groups. These results concur with those of [3], who affirm that the experience gained over the years of doing sports “is supposed to have improved the efficiency of consuming sports participation, while facing monetary and time restrictions”.

Another variable that shows significant differences is income. People with a higher income were found to allocate more money to sports, in line with the conclusions drawn in previous studies [11,12,22–24,26,28,30,32]. This is a positive proportional relationship. However, in future research, it would be interesting to test whether there is a similar positive relationship in the percentage of money allocated to sports in relation to total income. In this case, it may not be as clear that people with higher incomes also spend a greater percentage of their money, although this remains to be investigated.

Age and educational level are variables that behave in the same way because there is a correlation between them. People who spend more money on sports have an average age of between 41.55 and 45.40 years. The average age of people who dedicate between 361 and 751 EUR per month to sports is 35.40 years, results that agree with those of [13]. An exception worth mentioning is that the average age of people who allocate more than 750 EUR per month to sports is 74.20 years, a result that is line with some previous studies, which have affirmed that as people get older, their expenditure on sports increases [23]. The present study considered both direct consumption variables, such as purchasing equipment and sporting products directly related to sporting activity, and indirect variables. To this effect, the explanation for these results is that part of the elderly population does more elitist sports like golf, which are expensive to do and are, therefore, not within the reach of the rest of the population.

In general, the higher the educational level of the person, the more money they allocate to sports. According to the results of this research, 50% of the segment of people with a lower educational level spend less than 10 EUR per month or even nothing. Contrarily, a high percentage of around 80% of graduates or people with a master’s degree spend up to a maximum of 80 EUR per month on sports. This result concurs with those of previous studies [11], since it is considered that people with a high educational level have been more exposed to sporting activity for longer and have a better physical education. Consequently, they are considered to have acquired greater ability and better sports skills.

Last, the variable of gender was not significant in our study. There was no evidence of significant differences between men’s and women’s behavior regarding sport expenditure, unlike previous studies that have found this relationship to be significant in the case of men [12,23,28,31] or women [11].

Regarding the limitations of the study, they can be grouped into three categories. First, those related with the database variables: The fact that they are categorical variables implies a type of non-metric statistical analysis. Second, the unit of temporal measurement: There are variables measured in months and other measures in years; and thirdly, the choice of the variables used. These limitations are, at the same time, future lines of research, since in the future, variables referring to the reasons for carrying out physical activity or engagement with sports can be incorporated while using variables that are not categorical.

Additionally, as seen in the literature review, research into sport expenditure has some limitations. There are too few longitudinal studies that offer methodological advantages over transversal studies. Future research must go beyond merely descriptive results and use multivariate analysis tools like structural equations, since they can outline the impacts of the different indicators. To do so, the data should be transformed into metric variables and should not be categorized.

5. Conclusions

Having reviewed different research works with respect to the determinants of sport expenditure, three variables that help to predict this variable were identified: time of participation, federation membership, and income. This study also shows that variables like age and educational level explain significant differences in sport expenditure among its different categories. The two age ranges at the extremes spend more money on sports, while the group with a higher educational level also shows differences in sport expenditure.

The regression model could be an efficient simulation tool for people who spend smaller amounts of money on sports. The model is efficient when classifying people who spend less than 45 EUR per month.

The present study demonstrates the importance of knowing sports center users' behavior regarding sport expenditure as an essential element in the future strategy of the sector. With sports centers either closed or limiting the number of users at any one time, it is essential for managers that new products and services suited to the characteristics of their users are found, both at the level of doing sports and at the sociodemographic level.

Supplementary Materials: The following are available online at <http://www.mdpi.com/2071-1050/12/23/10206/s1>, Literature review of studies on sport expenditure at the microeconomic level.

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