

# School-Age Involvement in Sport and Perceived Quality of Sport Services

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## ABSTRACT

*Creating an active and healthy lifestyle starts in infancy and adolescence. A number of individual and collective factors affect whether or not sport is taken up and continued, which is an essential element in achieving a healthy lifestyle in adolescence and extending this into adult life. This study sets out to determine the perceived quality of the sport service provided by schools with organised physical activities, and whether the most positively assessed public organisations have a higher percentage of participation than those with a more negative assessment. The study population was 1109 adolescents from 28 towns comprising part of a sport provision system. A self-devised questionnaire with all the necessary properties, validity and reliability was conducted. The results showed that 42% of the adolescents take part in organised physical sport, and give the service provided a positive assessment. It was found that in organisations with a more positive assessment, the town has a higher rate of involvement in sporting activities.*

**Key words:** *organised youth sport, perceived quality, sport services*

## Introduction

In recent years, free-time physical and sporting activities have grown both qualitatively and quantitatively<sup>1,2</sup> as a result of people's growing interest in leading a healthy lifestyle. Experts have compared a sedentary lifestyle with an epidemic due to the effects that it can have on health<sup>3</sup>, as it is one of the main causes of death and a lower quality of life throughout the developed world<sup>4</sup>.

Physical activity plays a particularly important role in leading a healthy lifestyle, and the link between regular exercise, health and quality of living has been proven<sup>3-6</sup>.

Physical activity, however, is also related to age. It is in childhood and adolescence when it is easiest for this healthy habit to be created, as this is when certain patterns of behaviour are strengthened and consolidated. During this cycle, lifestyle and living habits, which are automatic responses to various situations<sup>7</sup>, are in the process of becoming fully formed<sup>8</sup>. It is not, therefore, a period in which only physical and psychological changes occur<sup>9</sup>, but rather it is also a critical time for building a healthy lifestyle that will continue into adulthood<sup>8,10,11</sup>.

Physical activity is influenced by psychological, social and environmental factors, which can be divided into individual and socio-environmental determinants<sup>12</sup>.

Individual factors include not only biological and psychological aspects, but also sociodemographic, cognitive, emotional and skill-related factors.

Gender is one of the most commonly analysed variables with regard to physical activity. Studies<sup>13,14</sup> show that women are more sedentary than men. Similarly, age conditions physical exercise (though negatively), which has also been observed in several studies, and even throughout adolescence itself<sup>14,15</sup>.

Further reading of studies that analyse how psychological factors influence involvement in sport shows that satisfaction and self-efficacy are excellent predictors of physical activity<sup>16</sup>.

Despite these results, it can be stated that there is very little genetic influence on involvement in sport in comparison with social influence<sup>17</sup>. Having cited some of

the individual factors that can influence free-time physical activity, there are other collective or social factors, which can be applied to groups and individuals alike, as well as other environmental elements. Personal factors include parents, educators, trainers, organisers, referees, sports players and mass media<sup>18</sup>.

A study of the repercussions that different groups of people can have on young people involved in sport shows that parents (in early adolescence) and the peer group have most influence on sport involvement<sup>19</sup>.

Other studies show the importance of environmental factors in physical activity<sup>20–22</sup>, including where the sport is played, its accessibility and the climate, among other factors.

Other studies have analysed and considered user and consumer satisfaction with current services. This is one of the most commonly studied facts in recent years, for two reasons: to gain a detailed understanding of how these services behave, and how best to use this information that organisations will have thanks to research of this kind<sup>23,24</sup>. Some authors that have studied the quality of different services and user satisfaction have noted a positive relationship between client satisfaction and the intentions or actual permanence of the service<sup>25–28</sup>.

It would seem logical to investigate whether the perceived quality of sport services can be linked to adolescent involvement in sport, as there is a general consensus that physical activity during childhood is beneficial for physical, social and emotional development<sup>29,30</sup>, and can also affect involvement in adulthood. Furthermore, promoting physical activity during adolescence is now considered both important and necessary<sup>31</sup>.

This paper sets out to shed light on this question and to provide data on the link between the perceived quality of sport services and involvement in organised physical activities, in this case during adolescence. The objectives guiding this research are to determine the perceived quality reported by users of the sporting organisation and/or services where they take part in physical activities, establish differentiation profiles regarding sex, age and organisation/town, and assess whether involvement in sports activities is correlated with the perception of the sport service.

## Materials and Method

### Subjects

The study population was 1365 adolescents and the participants in the study were 1109 (55.9% boys and 44.1% girls), with an average age of 14.12 years (SD 1.54), from secondary schools in 28 towns that form the Combined North Sport Service in the province of Huelva (Spain) who attended class on the day that the questionnaire was conducted. So we have worked with a margin of error of 1.3% and a 95% level of confidence. All groups/classes that form part of the sport system were included.

### Questionnaire

The self-devised questionnaire used sought to determine the organised sport activities that the adolescents take part in. The questionnaire included questions relating to current sporting activity. One item was included to determine the overall assessment of the sport service, with a score of 0 to 10.

Also included was the Scale of Perception of Sport Services (SPOS)<sup>32</sup>, which is designed to assess clients' perceived quality of sport services. The SPOS is a practical, direct tool for measuring users' perceptions of the organisation and the sport services that it provides, and contains all the psychometric properties needed for studies of this type.

All necessary methodological methods were followed to ensure content was validated<sup>33</sup>. Firstly, following a bibliographic review, the dimensions and variables were defined, and indicators were selected according to their relevance to the content and the viability of its application. To help devise the questions, external collaborators with experience in the relevant scientific and practical field were selected. This group put forward a series of objections and comments assessing the suitability/consistency of the items included. The definitive questionnaire was then produced, which included the indicators that were most accepted by the group of experts. The final result was a 5-point Likert scale from »strongly disagree« (1) to »strongly agree« (5), comprising 29 items in four groups: sport technicians, material resources, activities and image of the organisation.

The criteria were validated using the Pearson correlation coefficients between the service assessment score and the overall average assessment obtained with the SPOS. The result shows a significant correlation between the two variables ( $r=0.168$ ,  $p<.001$ ).

The items are analysed below. The descriptive statistics from the 29 items in the SPOS (mean, standard deviation, item/total correlation, alpha for each theoretical scale and the dimension of an item is eliminated, asymmetry and kurtosis) had acceptable values and allowed the maximum likelihood estimation to be used in the AFC.

Homogeneity analysis was then applied. Correlation analysis between the items' scores and the total score in each component indicated that the items did not overlap between the various theoretical dimensions.

Internal structure analysis was determined by recognising the empirical factor structure of the SPOS. An exploratory factor analysis was carried out on the 29 items, using the main component extraction method and subsequent varimax rotation. Before carrying out the analysis, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's sphericity test were calculated. The KMO index gave a value of 0.939, and the Bartlett's test was statistically significant ( $\chi^2_{406}=5495.737$ ;  $p<0.001$ ), and factor analysis application was thus considered relevant. The varimax rotation procedure was used (despite it being recommended for cases of unrelated factors) because of the theoretical interest in separating the result-

ing factors as far as possible, and despite the fact that the factors were related. The resulting dimensional structure is made up of five factors (activities, technicians, spaces, materials and image), which together explain 60.11% of the variance (Table 1).

In order to check that the scale follows the expected factor structure, a confirmatory factor analysis was then carried out, using the AMOS 16 software package. The parameters were estimated using the maximum likelihood method. Table 2 includes the data obtained from

some of the most commonly used adjustment indexes: RMR (Root Mean Residual), RMSEA (Root Mean Square Error of Approximation), GFI (Goodness of Fit Index), NNFI (Non-Normed Fit Index), AGFI (Adjusted Goodness of Fit Index), CFI (Comparative Fit Index) and the ratio between chi-square and degrees of freedom ( $\chi^2/df$ ). For AGFI, GFI, NNFI and CFI, values above 0.90 were considered acceptable; for RMR and RMSEA, 0.05–0.08; and in the  $\chi^2$  quotient and degrees of freedom, a model considered perfect would have a value of 1.0, with ratios

**TABLE 1**  
ROTATED FACTOR STRUCTURE, COMMUNALITIES, EIGENVALUES, CRONBACH'S ALPHA AND PERCENTAGE OF VARIANCE EXPLAINED BY EACH FACTOR

Factor	Activities	Technicians	Spaces	Materials	Image	h <sup>2</sup>
1 The teacher/trainer keeps to the schedule.	.475					.430
15 The activities available are updated.	.597					.456
16 The activity is enjoyable.	.564					.541
17 The tasks carried out in class are sufficiently varied.	.442					.476
18 Times and schedules are convenient for users.	.645					.502
19 Activities end at the indicated time.	.666					.532
20 You are informed of the benefits of this activity.	.557					.565
21 You are satisfied with the activity's value for money.	.648					.551
22 I get the results I expected from this activity.	.538					.511
25 It was simple to get involved in this activity.	.522					.442
27 The staff treat you pleasantly.	.565					.529
2 You are happy with how the monitor/trainer treats you.		.571				.525
3 You think that the trainer/monitor pays users/pupils enough attention from the very beginning.		.542				.483
4 You think that the trainer/monitor adapts the classes to the interests/needs of the pupils/users.		.671				.584
5 You think that the trainer/monitor gives the group enough encouragement.		.776				.663
6 You feel that the trainer/monitor plans the classes well.		.746				.629
7 The changing rooms are clean enough.			.800			.705
8 The changing rooms are large enough.			.734			.658
9 The facilities are clean enough.			.753			.717
10 The temperature is right.			.715			.625
23 The facilities have some way of receiving your suggestions (suggestions box, notice board).			.634			.542
11 There are enough materials for the classes.				.830		.754
12 The materials are in optimum condition to be used.				.783		.760
13 The materials are modern.				.737		.702
14 The facilities are safe enough.				.517		.604
24 There is enough information on the activities that take place in the centre.					.496	.553
26 The service staff are there when needed and are always willing to help.					.557	.643
28 The staff at the facilities get on well together.					.706	.780
29 Your relationship with the group is a pleasant one.					.739	.733
% explained variance	16.14	13.23	11.94	9.69	9.09	60.11
Eigenvalue	11.24	2.55	1.41	1.21	1.09	
Cronbach's alpha	.885	.799	.847	.857	.841	

below 2.0 considered as indicators of a very good adjustment model, whereas values of less than 5.0 were considered acceptable<sup>34</sup>. As can be observed, the results show a correct factor structure (Table 2).

**TABLE 2**  
ADJUSTMENT AND ERROR INDICATORS OF THE CONFIRMATORY FACTOR ANALYSIS

	Activities	Technicians	Spaces	Materials	Image
RMSEA	.047	.073	.077	.079	.038
RMR	.035	.041	.047	.043	.017
GFI	.966	.978	.984	.980	.996
AGFI	.950	.933	.955	.902	.982
CFI	.975	.969	.986	.981	.998
NNFI	.951	.962	.981	.979	.996
$\chi^2/df$	2.017	4.981	3.783	4.989	1.682

Internal consistency and reliability of the five SPOS sub-scales were evaluated with Cronbach’s alpha (Table 1). Values ranged from .799 (technicians) to .885 (Activities).

*Statistics*

The data were analysed following computerised tabulation and mechanisation using the SPSS 17.0 software package, which allowed for the precise statistical techniques needed in this research to be implemented.

A descriptive analysis was run first, using the frequency, mean and standard deviation statistics. An inferential analysis was then carried out, in which different statistics were used: contingency tables and the  $\chi^2$  contrast test; difference of means test (t-test) and ANOVA of one factor and correlations.

**Results**

A total of 42.5% of the population studied was involved in organised physical activities. Significant differences were found with regard to sex (p=.000), age (p=.000) and town of residence (p=.000) (Table 3).

**TABLE 3**  
CONTINGENCY OF ORGANISED PHYSICAL ACTIVITY ACCORDING TO SEX, AGE AND TOWN;  $\chi^2$ -TEST AND LEVEL OF SIGNIFICANCE

		Organised physical activity		$\chi^2$	p
		Involvement	No involvement		
Sex	Boy	53.4%	46.6%	64.947	.000
	Girl	28.7%	71.3%		
Age				38.184	.000
Town				134.693	.000
Total		42.5%	57.5%		

The overall assessment of the physical activity carried out was good. The practitioners give the sport service provided by the organisation a score of 3.58±0.95. The factor given the worst assessment is spaces, and the best assessed is technicians. Differences were found between boys and girls in the assessment made with the SPOS, activities provided, technician assessment and materials (Table 4).

**TABLE 4**  
ASSESSMENT OF THE PERCEIVED QUALITY OF THE SERVICE ACCORDING TO SEX; T-TEST AND LEVEL OF SIGNIFICANCE

		Perceived quality of service			T	Sig.
		Total	Boys	Girls		
SPOS	M	3.58	3.51	3.84	-3.985	.000
	D.T.	.950	.94	.73		
Activities	M	3.95	3.84	4.23	-5.093	.000
	D.T.	.75	.77	.64		
Technicians	M	4.02	3.91	4.27	-4.468	.000
	D.T.	.841	.87	.69		
Spaces	M	3.18	3.16	3.19	-0.322	.747
	D.T.	1.06	1.09	.98		
Materials	M	3.79	3.72	3.95	-2.097	.037
	D.T.	1.05	1.08	.97		
Image	M	3.73	3.67	3.86	-1.882	.060
	D.T.	.97	.99	.94		

With regard to age, differences were only found in the assessment of the activities factor, with the youngest users giving them the best assessment. In terms of the assessment of the service regarding the different towns and/or organisations, significant differences were found in both the overall assessment obtained in the SPOS, and all the factors that make up the scale (Table 5).

By correlating the scores given by the users to each of the organisations and the level of involvement in sport in each one, a relationship was observed to exist between the assessment of the organisation and involvement (Table 6).

**TABLE 5**  
ASSESSMENT OF THE PERCEIVED QUALITY OF THE SERVICE ACCORDING TO AGE AND ORGANISATION; ANOVA TEST AND LEVEL OF SIGNIFICANCE

		Age		Organisation	
		F	Sig.	F	Sig.
SPOS		1.190	.303	4.320	.000
Activities		2.019	.043	3.322	.000
Technicians		1.254	.266	3.760	.000
Spaces		1.903	.058	7.638	.000
Materials		1.300	.242	8.358	.000
Image		.970	.459	4.527	.000

**TABLE 6**  
ASSESSMENT OF THE PERCEIVED QUALITY OF THE SERVICE ACCORDING TO THE ORGANISATION; LEVEL OF ACTIVITY BY ORGANISATION. CORRELATION AND LEVEL OF SIGNIFICANCE

	Scale of perception of organisations and services (SPOS)						% of activity
	Global assessment (SPOS)	Activities	Technicians	Spaces	Materials	Image	
Higuera de la Sierra	3.51	3.62	3.78	3.75	2.95	3.65	35.48
Encinasola	4.35	4.47	4.63	3.60	4.36	4.18	51.22
Hinojales	3.54	3.58	3.62	2.49	3.90	3.80	84.62
Cañaveral	3.41	3.86	3.75	1.93	4.25	3.78	86.67
Zufre	3.06	3.30	3.53	2.33	3.14	2.64	31.03
Puerto Moral	4.03	4.06	4.05	3.27	4.44	3.86	85.71
Los Marines	3.67	4.00	3.69	3.00	3.47	3.69	66.67
Cortelazor	3.78	4.65	3.95	2.75	3.98	3.93	78.57
Almonaster	2.96	3.68	3.53	2.93	4.55	4.00	16.22
Rosal de la Frontera	4.32	4.30	4.53	3.80	4.44	4.30	56.52
Cala	3.77	4.11	3.98	3.12	3.93	3.82	51.22
Alajar	4.01	4.05	4.40	2.90	4.14	3.75	44.00
Linares de la Sierra	4.25	4.39	4.37	3.37	4.54	4.58	60.00
Cumbres de S. Bartolomé	4.47	4.59	4.55	4.18	4.47	4.44	42.11
Santa Ana la Real	4.24	4.17	4.43	3.53	4.43	4.16	56.25
Arroyomolinos de León	3.17	3.52	3.29	2.36	3.68	3.34	25.00
Galaroza	3.08	3.49	3.55	2.34	2.37	2.91	46.15
Aracena	3.94	3.97	3.91	3.82	4.07	4.05	36.82
Fuenteheridos	4.31	4.18	4.52	3.63	3.73	3.98	38.46
Aroche	4.23	4.28	4.55	3.68	4.26	4.22	30.14
El Repilado	3.70	4.14	4.45	2.36	3.35	3.35	62.86
Cumbres Mayores	3.66	3.93	3.78	3.28	3.36	3.48	56.96
Castaño del Robledo	2.91	3.59	4.47	1.10	1.00	2.50	40.00
Santa Olalla	3.98	4.20	4.29	3.20	4.19	3.73	55.26
Almaden de la Plata	2.00	2.01	1.99	2.02	1.88	2.00	7.69
El Real de la Jara	3.56	3.82	3.40	2.80	3.88	3.75	15.38
Cortesana	3.17	3.28	4.05	2.29	2.94	2.75	24.00
Jabugo	3.75	3.73	3.44	3.49	4.43	3.75	32.35
Pearson correlation	.421*	.506**	.362	.029	.299	.369	
Sig. (bilateral)	.026	.006	.059	.885	.122	.053	

Significant at \* $p < 0.05$ , \*\* $p < 0.001$

## Discussion

The purpose of this paper was to study the perceived quality and user satisfaction of sport services aimed at adolescents, constructs that are strongly and positively correlated<sup>28</sup>, as well as to establish differences between sex, age and sports organisation. A second and newer purpose, no less important than the first, was to associate perceived quality with the level of sports involvement in all the organisations studied. To carry this out, a self-devised questionnaire was used, containing all the necessary psychometric properties.

Adolescents were chosen as they are not a group in which only physical and psychological changes occur, but

rather are in a critical period in terms of building a healthy lifestyle<sup>8,35</sup> that will then extend into adult life<sup>8,11,36,37</sup>, hence the importance of gaining greater understanding of the organised physical activity in which they are involved.

The results of the study indicated that a high percentage of adolescents do not take part in organised physical activity, with a considerable amount having abandoned their involvement in sport. This is worrying because adolescents that are involved in organised sport are more physically active than those who report not belonging to a sports organisation<sup>38</sup>. Differences in physical activities appeared according to sex and age, as recorded in other studies<sup>14,39</sup>.

Perceived quality and user satisfaction with sport services is an issue that is now beginning to receive greater academic attention, as a result of which there are currently few studies on the subject<sup>40–42</sup>, with the limitation that, on the whole, they do not provide valuable diagnostic information for organisation managers, politicians or planners<sup>24</sup>.

The overall assessment of the service measured using the SPOS was good (3.58 out of 5), with significant differences relating to sex, with females giving the highest score, and the organisation where the sports activities are carried out obtaining similar results to those of other studies<sup>40</sup>. Age is not a variable that is related to perceived quality, except in the activities factor, which does not coincide with the results from other studies<sup>40,43</sup>, though this result may be due to the very small age differences between the subjects studied.

The factor analysis found five resulting factors: activities, technicians, spaces, materials and image of the organisation. The worst assessed dimension was spaces used for sport, with no difference between the sexes or ages, but a difference was observed between organisations. However, this result should not overly alarm the managers of organisations, since the weighting given to facilities in user satisfaction is small in comparison to other elements, particularly the human factor<sup>43–45</sup>.

Fortunately, the technicians factor received the most positive assessment, among boys and girls alike, which coincides with other similar studies, in which human resources are very highly assessed<sup>28,43,46</sup>. Bodet<sup>44</sup> concludes that the human factor is a determinant for user satisfaction, which is undoubtedly repeated in our study, as it is the only factor that achieves a score of more than 4.

Analysis of the perceived quality of the different organisations revealed significant differences in each of the factors that form the SPOS. This result, together with the existence of significant differences in the physical activities organised depending on each organisation, leads to the hypothesis that organisations which, according to users, provide a better service, have a higher percentage of users. Thus, a significant and positive correlation is observed between the rate of activity by town and overall assessment, as is a correlation between the rate of activity and the activities factor.

This result shows that satisfaction and/or perceived quality of the service or organisation is a variable to be studied in the involvement and maintenance of sports activities in adolescents, as had been reflected in various studies<sup>25–28</sup>.

These results are not only new, but they translate into various clear strategies to improve the perceived quality

of sports services aimed at children and adolescents. The first, to perfect human resources, is easily understandable and achievable by the managers of these activities. This will not only maintain but also improve the level of perceived quality. It should be remembered that for Bodet<sup>44</sup>, human resources are a determining factor in user satisfaction.

Activities is the factor that has shown a correlation with the level of sports involvement. The quality of the programme and the activity itself, which manifests itself in a range of services that are in tune with the needs and expectations of adolescents means not only a more positive assessment, but high participation rates among adolescents. This is why it is important to determine the expectations and motives that guide the sports activities that adolescents take part in.

Improving the image of the organisation is a necessity. Nuviala, Ruiz and García concluded in their study<sup>47</sup> that the closer the organisation is to the citizen, the more positive is the assessment given. However, that study did not relate sports activity to the image of the organisation. This paper has sidestepped this shortcoming and notes that in organisations with a positive assessment, the rate of involvement is higher than in others that are more negatively assessed.

The last strategy is to improve material resources, spaces and sports materials. As mentioned previously, material resources are necessary for sports activity to develop, albeit on a secondary plane. The perceived quality in the provision of sports services depends, to a great extent, on human relations, so in terms of the priorities to improve services, the need to improve human resources ranks at the top of the list, with material resources lower down the scale. If the strategy to improve perceived quality is to improve material resources, there will always be another organisation with even newer resources. However, if the strategy focuses on human resources, an organisation will have the optimal staff with which to provide its services.

## Conclusions

According to our results, the main conclusion of this research is that the analysis of the perceived quality of the different organisations revealed significant differences in each of the factors that form the SPOS. This result, together with the existence of significant differences in the physical activities organised depending on each organisation, leads to the hypothesis that organisations which, according to users, provide a better service, have a higher percentage of users.

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## UKLJUČENOST ADOLESCENATA U SPORT I PROCJENA KVALITETE SPORTSKIH USLUGA

### SAŽETAK

Stvaranje aktivnog i zdravog životnog stila počinje u djetinjstvu i nastavlja se u adolescenciji. Razni individualni i kolektivni faktori utječu na početak bavljenja sportom i nastavak bavljenja sportom kroz godine, što se smatra ključnim elementom zdravog života. Cilj ovog istraživanja bio je utvrditi kvalitetu fizičke aktivnosti i rekreacije u školama te imaju li pozitivno procijenjene javne organizacije viši udio sudionika od onih procijenjenih negativno. U studiju je bilo uključeno 1109 adolescenata iz 28 gradova koji su ispunjavali upitnik posebno dizajniran za ovo istraživanje. Rezultati su pokazali da 42% adolescenata sudjeluje u organiziranoj fizičkoj aktivnosti te daje organizaciji pozitivnu ocjenu. Također je utvrđeno da veći broj organizacija s pozitivnom procjenom utječe na činjenicu da sam grad ima višu razinu uključenosti stanovnika u sportske aktivnosti.