

Motives for practicing sport in Spanish schoolchildren

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The aim of this study was to analyze the motives for practicing sport among the Spanish school population aged between 8 and 18 years. In order to obtain a global idea of the motivation of Spanish schoolchildren, we studied the loadings of the motives, the underlying motivational structure, and the relationship between intensive and selective aspects of the behavior. The sample of participants was made up of 4606 pupils (2294 males and 2312 females) from 37 Spanish schools. Factor analyses of the questionnaire used showed a total of 9 primary factors of motivation. Motivational differences were found according to sex, age, type of population and intensity of motivation for sport. We identified subsets of variables related to the level of active involvement of young people in sport. Finally, the results are discussed and some future perspectives outlined.

Motivos para la práctica del deporte en escolares españoles. Se analizaron los motivos que impulsan la práctica deportiva en la población escolar española con edades comprendidas entre los 8 y los 18 años de edad. Para dar una idea global de la motivación de los escolares españoles, se estudió el peso de los motivos, la estructura motivacional subyacente, y la relación entre los aspectos intensivo y selectivo de la conducta. La muestra de participantes estaba formada por 4.606 jóvenes (2.294 varones y 2.312 mujeres), estudiantes de 37 colegios españoles. El análisis factorial del cuestionario utilizado muestra un total de 9 factores básicos (primary) de motivación. Se encontraron diferencias motivacionales en función del sexo, la edad, el tipo de población y la intensidad de la motivación hacia el deporte. Se han identificado subconjuntos de variables que están relacionadas con el nivel de implicación activa de los jóvenes en el deporte. Finalmente se discuten los resultados y se esbozan algunas perspectivas de futuro.

The study of the problem of motivation involves making reference to intensive and selective aspects of behavior. The former concerns the strength, volume and duration of the commitment to sport, which allows us to establish quantitative differences between individual motivations; the latter aspect refers to the goals, needs, desires and aspirations of those that practice sport. Since the 1980s, the descriptive study of sports motivation in young people has been common within sports psychology. The intensive aspect, however, has received scant attention from researchers, and there are few studies that attempt to present a global perspective on the problem of motivation to practice sport. Moreover, the studies that have been carried out have been done so with participants in organized sports programs, almost all in the context of competitive sport, and mainly in the United States, Canada, Australia and Britain. Nevertheless, the last decade has seen the extension of such research activity to other geographical and cultural areas, generally leading to the confirmation of previous results (Alexandris and Carroll, 1997, in Greece; Buonamano, Cei and Mussino, 1995, in Italy; Villamarín, Mauri and Sanz, 1998, in Spain).

The instrument designed by Gill, Gross and Huddleston (1983), called the Participation Motivation Questionnaire, has been one of

the most frequently used, and has permitted a fairly balanced comparison between different studies (Brodkin and Weiss, 1990; Buonamano et al., 1995; Cruz and Viana, 1989; Gould, Feltz, and Weiss, 1985; Klint and Weiss, 1986, 1987; Lázaro, Villamarín, and Limonero, 1993). These studies have demonstrated the existence of a consistent set of factors, such as *Ability, Friendship, Team, Achievement/Status, Physical Condition and Liberation of Energy*, even though these factors have not appeared in all studies, nor always with the same solidity.

Most of the research carried out to date has concentrated on the psychological aspects that determine involvement in sport, even if the work of Buonamano et al. (1995) extended to an analysis of motives for participation according to different sociocultural variables, such as geographical region or parents' educational level. Also, there has been a predominance of studies focusing on the motivation of young people to participate in competitive sport, though data from such research is of limited value for explaining the extent of more generalized involvement in sport, as encouraged by the motto «sport for all» (Ashford, Biddle and Goudas, 1993).

With the aim of measuring motives for participation in leisure, recreation and exercise/fitness activities, various scales have been designed, and results have been diverse. Such scales have mainly been used for examining the participation in sport of adults; few have been developed specifically for children and young people. The most detailed instrument of those published is that of Markland and Hardy (1993), which includes a total of 44 motives. Subsequent factorial analysis revealed a total of 12 factors that ex-

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plain commitment to regular sports and physical exercise activities. The scales of Silberstein, Striegel-Moore, Timko and Rodin (1988), and Frederick and Ryan (1993) include fewer motives, emphasizing those directly related to health/physical fitness and the body. Thus, in the study by Silberstein, Striegel-Moore, Timko and Rodin (1988) there appear 6 factors, of which four are related to motives of the body and health/physical condition. Frederick and Ryan (1993), using their 23-item questionnaire (Motivation for Physical Activities Measure), which measures motivation to participate in the area of physical activity, obtained 3 factors: one related to the body (10 items), one competence factor (6 items) and one enjoyment factor (6 items). These questionnaires show some limitations, such as the absence of the *Social Factor* in both scales and the *Relaxation Factor* in Frederick and Ryan's scale. Alexandris and Carroll (1997) point out that limitations related to the absence of colleagues was one of the most important reasons for not taking part in recreational sports activities.

The questionnaire of Clough, Shepherd and Maughan (1989) was designed specifically for recreational running. It includes the motivational categories described in leisure research literature, as well as those most relevant to running. Selection and generation of the items, a total of 81, were guided largely by the work of Crandall (1980). The application of the questionnaire to a sample of 521 runners, aged between 18 and 62, revealed the existence of 6 principal factors, that explained 49% of the variance: *Wellbeing, Social, Challenge, Status, Adiction* and *Health/Physical Condition*.

Alexandris and Carroll (1997) drew up a questionnaire after reviewing the literature on motivation in leisure and recreation, especially the scales of Clough et al. (1990) and Beard and Ragheb (1983), and Crandall's (1980) list of motivational indicators. From a total of 27 items they obtained 6 factors: *Status, Relaxation, Intellectual, Social, Competition/Achievement* and *Health/Physical Condition*. Not included were specific items related to the body and weight control, which are relatively applicable to participants in physical fitness programs (Davis, Fox, Brewer and Ratusny, 1995).

In the school context some studies have been carried out using the questionnaire Health Behavior in Schoolchildren, designed by Wold (1995). From a total of 10 motives, 3 factors emerged: *Social Approval/Demonstration of Ability, Health* and *Affiliation*. Later studies appear to confirm these results (Balaguer, 1999; Castillo and Balaguer 2001).

As it can be observed, research on sports motivation in young people has mainly been developed in competitive situations. Those with a more general approach, in the context of «sport for all», have served to provide information on sports participation among adults, rather than children, and even though some recent studies have been carried out in the school environment, these have focused on sport for health. Furthermore, different measurement scales have been used, giving different results, while studies correlating intensive and selective aspects have been practically non-existent.

The main objective of this work is to analyze motives for practicing sport among the school population aged 8 to 18. We believe this information to be of great importance for physical education teachers, psychologists and those involved in sports management.

Guided by this general objective, we decided to (a) assess the loadings of different motives, (b) identify the underlying motivational structure, and (c) present a global view of motivation relating intensive and selective aspects of the behavior.

Method

Participants

The sample comprised a total of 4606 pupils (2294 males and 2312 females) aged 8 to 18 from a total of 37 schools in the north of Spain (Principality of Asturias). Participants were selected by means of random and stratified sampling using proportional fixing by population clusters (0-2000 inhabitants, 2001-10 000, 10 001-50 000, 50 001-100 000, and over 100 000 inhabitants), and according to type of school (public, private), grade (3rd-grade primary to pre-university) and gender.

Instrument

In a pilot study we found that 88.1% of the school population practiced sport outside of physical education classes; 56.4% of these participated in organized programs and the remaining 31.7% in an informal way, either alone or with friends. We also found that 34.6% of the sample population took part in school competitions, 35.3% in competitions approved by official federations, and 40.9% in municipal sports programs or schemes organized by private sports schools. Sports activity in children of these ages thus included those that participated in various types of organized program (leisure activities, recreation, exercise/fitness or competition) and those that practiced sport informally, alone or with friends. We therefore considered it necessary to design a new questionnaire adapted to the study's target population and to the Spanish socio-cultural context in which it would be applied.

For the construction of the questionnaire we proceeded as follows. The first step was to make an exhaustive review of the existing bibliography and questionnaires. This was followed by a study to explore possible motives for practicing sport, which involved interviewing 20 pupils per school year, 10 of each sex, making a total of 220 interviews. On the basis of the open responses recorded and the bibliography reviewed, an initial 39-item questionnaire was designed, and submitted to rigorous analysis by ten experts. After the modifications suggested by the experts had been made, it was applied to 356 males and 467 females, aged 8 to 18, from two schools (one private and one public). After analysis of the data collected, and in view of the psychometric properties of the scale, a final questionnaire was designed with 33 possible reasons for practicing sport. The format used was Likert-type with three categories per item (1= *not at all important*, 2= *quite important*, and 3= *very important*). The scale includes motives of physical condition, ability, team, friendship, fun, relaxation, health, bodily appearance, social approval, competition and heterosexuality. Despite the fact that we included in the pilot study motives referring to sexuality in general, we considered it advisable in the application, given the reservations of some parents, teachers and participants, to mention only motives of heterosexuality. We decided to include this type of reason since, though of little importance for the majority of those surveyed, it may help to provide a more complete perspective on certain tendencies in sports motivation in children in this age range.

In order to determine the intensity of the motivation and make a subsequent contrast analysis, we included in the study ten variables designed for measuring: (a) level of interest in sport (from 1= *little* to 4= *a lot*), (b) level of sports activity (from 1= *less than 1 hour per week* to 4= *more than 3 hours per week*), (c) regularity of sports activity (1= *equal all year round*, 2= *highest in summer*), (d) perceived effort (1= *very little* to 5= *a lot*), (e) estimation of time

during which sport will be practiced (1 = *I will stop doing sport shortly*; 4 = *I will do sport all my life*), (f) perceived level of competence (1 = *very low*; 5 = *very high*), (g) achievement of goals of doing sport (1 = *yes*, 2 = *no*, 3 = *only some*), (h) level of satisfaction with sport (from 1 = *not at all satisfied* to 5 = *highly satisfied*), (i) influence of sport on studies (1 = *positive*, 2 = *negative*, 3 = *neither positive nor negative*, 4 = *don't know*), and (j) way in which sport is practiced (1 = *with teacher or trainer*, 2 = *alone or with friends*).

Procedure

The fieldwork, for collection of data, was carried out between January and June 2000 by five suitably trained interviewers, who administered the questionnaires in the respective schools, academic year by academic year. The procedure of the study and the reasons for carrying it out were explained to pupils in their classrooms. After assuring them of the absolute confidentiality of the results, the questionnaires were distributed and participants were given the time necessary for completing it. Authorization of parents, teachers and head-teachers was secured at all times.

Data analysis

We used descriptive statistics for determining the importance of the motives; principal components factor analysis with varimax ro-

tation for studying the motivational structure; and principal axes factor analysis without rotation for identifying bipolar subsets. With the aim of selecting the most appropriate statistics for correlating intensive and selective aspects of motivation to practice sport, we carried out goodness of fit tests, specifically, the Kolmogorov-Smirnov statistic and the Lilliefors significance level, to determine whether the difference between the empirical distribution function of the variables and the distribution function expected under the hypothesis of normality was statistically significant. The results led us to reject the hypothesis of normality, and consequently, non-parametric tests were used. The Kruskal-Wallis test permitted us to compare the distribution of the dependent variable (motivational factors) in the k groups (intensity of motivation). The cases of the groups were ordered in simple series, each observation being substituted by its rank (Table 5 shows the mean rank differences).

Results

Importance of the motives

Table 1 shows the average ratings of motives for practicing sport for males, females and the total sample. The most important motive adduced for doing sport is «to stay healthy». In women, this motive is followed in order of importance by: «to keep fit»,

Table 1
Means of motives for practicing sport in the male, female and total samples

Motives for Practicing Sport	Means		
	Male	Female	Total
To stay healthy	2.76	2.83	2.80
To keep fit	2.73	2.74	2.74
To make progress and improve sporting level	2.76	2.71	2.73
To improve my skills	2.77	2.68	2.72
To stay in good physical condition	2.72	2.67	2.69
To have a good physique	2.71	2.62	2.67
Because it is exciting and fun to play	2.70	2.59	2.65
Because I enjoy it	2.61	2.55	2.58
To learn new movements	2.60	2.54	2.57
To have a well-developed and slim body	2.46	2.36	2.41
Because I like group sports	2.46	2.34	2.40
To prevent illnesses	2.35	2.39	2.37
To achieve or maintain a good figure	2.35	2.36	2.35
To reduce the stress of studies and exams	2.31	2.37	2.34
For reasons of personal hygiene	2.34	2.34	2.34
To collaborate and cooperate with friends	2.39	2.29	2.32
Because I like team spirit	2.39	2.23	2.31
To make new friends	2.32	2.29	2.31
To be with friends	2.38	2.20	2.29
For the pleasure it provides	2.32	2.21	2.27
Because it calms me	2.19	2.26	2.23
To relax	2.14	2.26	2.10
Because I like belonging to a team	2.23	2.03	2.13
To have a slim body	2.07	2.08	2.07
To gain the approval of the trainer or teacher and get good marks	1.91	1.78	1.85
Because I like winning	1.77	1.38	1.57
To satisfy my parents and friends	1.59	1.45	1.52
To perform better than the rest	1.69	1.34	1.51
To arouse interest in the opposite sex	1.63	1.33	1.48
To show that I can be better than the rest	1.59	1.25	1.42
To be more successful with the opposite sex	1.59	1.25	1.42
Because good sportsmen/women are attractive to the opposite sex	1.47	1.24	1.35
To be well-known and popular	1.35	1.17	1.28

«to make progress and improve sporting level», «to improve skills», «to stay in good physical condition», «to have a good physique», and «because playing (the sport in question) is exciting and fun». For the males these motives are also the most important, but they appear in a different order. The first position is occupied by «to improve skills» and this is followed by «to stay healthy», «to make progress and improve sporting level» and «to keep fit».

The reasons rated as least important, by both males and females, were those which, as will be seen in the subsequent factorial analysis, are related to heterosexuality and to the two directions of achievement motivation: those behaviors aimed at demonstrating a certain ability in comparison with the performance of others, and those oriented to the quest for social approval and the esteem of significant others.

Factorial structure of the motives

In order to make possible the comparison of this study with previous research, a factor analysis of principal components with varimax rotation was carried out for the total sample and separa-

tely for males, females and the four age groups. In the total sample nine factors were found, as can be seen in Table 2, in which, for reasons of clarity, loadings under 0.40 have been omitted.

The first factor can be described as *Physical Condition/Bodily Appearance*, and includes reasons such as staying in good physical condition, keeping fit, slimming/keeping slim, having a good figure, etc. The second factor contains the three reasons oriented to establishing an affective relationship with the opposite sex, and was labeled as *Heterosexuality*. Factor 3, defined as *Team*, indicates the need for affiliation, practicing sport in a group, belonging to a team, etc. Factor 4, *Fun/Friendship*, is related to games, fun, pleasure, emotion, etc. Factor 5, called *Ability*, represents another direction of achievement motivation, oriented to demonstrating mastery of the sport itself, improving one's ability, learning new movements and improving sporting level in general. Factor 6, labeled as *Winning*, includes items of achievement motivation, but of those behaviors aimed at demonstrating a certain ability in comparison to the performance of others. This involves the quest for competitive ability (Maehr and Nicholls, 1980; Roberts, 1984), demonstrating that one can be better than the rest, performing bet-

Table 2
Factorial analysis of the questionnaire for the total sample

Motives for Practicing Sport	Factors								
	1	2	3	4	5	6	7	8	9
To achieve or maintain a good figure	.77								
To have a well-developed and well-proportioned body	.71								
To have a slim body	.71								
To keep fit	.67								
To have a good physique	.63								
To stay in good physical condition	.63								
To be more successful with the opposite sex		.86							
To arouse interest in the opposite sex		.84							
Because good sportsmen/women are attractive to the opposite sex		.82							
Because I like group sports			.80						
Because I like team spirit			.77						
Because I like belonging to a team			.75						
Because I enjoy it				.69					
Because it is an exciting and fun to play				.68					
To be with friends				.63					
To make new friends				.52					
For the pleasure it provides				.52					
To collaborate and cooperate with friends				.44					
To make progress and improve my sports ability					.73				
To learn new movements					.71				
To improve my skills					.68				
To show that I can be better than the rest						.79			
To perform better than the rest						.77			
Because I like winning						.72			
Because it calms me							.82		
To relax							.77		
To reduce the stress of studies and exams							.76		
For reasons of personal hygiene								.72	
To prevent illnesses								.72	
To stay healthy								.54	
To satisfy my parents and friends									.73
To gain the approval of the trainer or teacher and get good marks									.67
To be well-known and popular									.42
Eigenvalues	7.11	3.09	2.43	1.92	1.44	1.36	1.16	1.10	1.00
Percentage of explained variance	21.5	9.37	7.36	5.84	4.37	4.14	3.53	3.34	3.03
Alpha	83	84	78	73	71	72	77	78	73

Note. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Loadings < 0.40 blanked.

ter than others, and winning. Factor 7, *Relaxation*, includes reasons such as «because it relaxes me», or «to reduce the stress of studying and exams», etc. Factor 8, *Health*, includes motives of hygiene and prevention of illness. Finally, Factor 9, called *Social Approval*, represents the third direction of performance motivation, oriented towards the search for the approval and esteem of significant others (social approval): teachers, trainers, parents and friends. As it can be observed, three factors are related to achievement motivation (5, 6 and 9), another three to the need for affiliation and fun (2, 3 and 4), two to physiological and aesthetic needs (1 and 8), and one to needs of relaxation (7).

Gender does not appear to affect significantly the factorial structure of the motives, with nine factors being found for females and eight for males, since in the latter the first factor combines, apart from physical condition and bodily appearance, the factor health. In other respects the structures for males and females are quite similar.

Relationships between the non-rotated factors and the variables that measure intensity of the motivation

In order to effect a more profound analysis of the motives we studied the motivation factors jointly with thirteen potentially relevant variables. Table 3 shows the loadings of the motivational va-

riables in the nine factors (non-rotated), and Table 4 presents an analysis of the relationships between the factors and the thirteen variables that measure intensity of motivation to practice sport. For these analyses the rank-sum contrast statistic was used.

In the first factor the highest scores demonstrate enthusiasm for sport, whilst the lowest reflect a critical attitude towards it. As can be seen in Table 4, this motivation to practice sport is significantly higher in males ($\chi^2= 113.64$; $p<.001$), decreases gradually with age ($\chi^2= 173.08$; $p<.001$), and is directly proportional to: (a) level of interest in sport ($\chi^2= 461.20$; $p<.001$), (b) level of sports activity ($\chi^2= 141.13$; $p<.001$), (c) regularity of sports activity ($\chi^2= 106.88$; $p<.001$), (d) perceived effort ($\chi^2= 351.62$; $p<.001$), (e) level of satisfaction with sport ($\chi^2= 385.51$; $p<.001$), (f) perceived level of competence ($\chi^2= 384.77$; $p<.001$), and (g) adherence ($\chi^2= 152.95$; $p<.001$). It can also be seen that level of motivation is higher in (h) those that carry out sports activities directed by a teacher or trainer ($\chi^2= 121.06$; $p<.001$), (i) those that succeed in achieving the goals of their sports participation ($\chi^2= 131.25$; $p<.001$), and (j) those that have a more positive view of the influence of sport on academic life ($\chi^2= 196.64$; $p<.001$).

The second factor gives the bipolarity *heterosexuality/win - ning/popularity* (positive pole) and *health/team/relaxation/fun* (negative pole). Thus, this factor appears to discriminate between,

Table 3
Factorial matrix of the non-rotated components

Motives	Factors								
	1	2	3	4	5	6	7	8	9
Because I like winning	.27	.36	.14	-.17	.23	.04	-.15	-.03	-.10
To perform better than the rest	.35	.37	.11	-.21	.35	-.02	-.12	.06	-.13
To show that I can be better than the rest	.33	.45	.14	-.21	.38	-.05	-.17	.07	-.12
To improve my skills	.46	-.12	-.11	-.26	.13	.20	.16	.09	.05
To learn new movements	.45	-.18	-.01	-.24	.07	.16	.26	.12	.16
To make progress and improve sporting level	.46	-.19	-.13	-.29	.09	.24	.20	.11	.11
To satisfy my parents and friends	.37	.23	.08	-.19	.01	-.23	.14	.10	.21
To be well-known and popular	.32	.45	.10	-.08	.09	-.09	-.04	.08	.08
To gain the approval of the trainer or teacher and get good marks	.39	.23	.01	-.19	.04	-.27	.10	.06	.17
Because I enjoy it	.26	-.21	.23	.17	.01	.26	-.17	.15	-.03
Because it is exciting and fun to play	.34	-.23	.30	.03	-.09	.29	-.15	.14	.01
Because of the pleasure it provides	.35	-.16	.19	.14	.08	.24	-.07	.07	.09
To be with friends	.39	-.04	.44	.11	-.19	-.10	-.16	.25	-.01
To make new friends	.49	-.14	.33	.06	-.23	-.16	-.05	.22	.07
To collaborate and co-operate with friends	.49	-.21	.30	-.05	-.20	-.16	.02	.16	.01
To arouse interest in the opposite sex	.38	.57	.08	.22	-.18	.16	.18	-.02	-.04
To be more successful with the opposite sex	.37	.66	.06	.25	-.19	.11	.18	-.03	-.09
Because good sportsmen/women are attractive to the opposite sex	.36	.57	.04	.20	-.14	.16	.13	-.06	.03
To stay healthy	.48	-.23	-.25	-.04	-.03	-.05	.10	.04	-.19
For reasons of personal hygiene	.50	-.10	-.12	.07	-.04	-.17	.14	.07	-.25
To prevent illnesses	.51	-.11	-.18	.07	-.02	-.25	.15	.06	-.25
To achieve or maintain a good figure	.54	.15	-.40	.11	-.10	-.06	-.25	-.02	.17
To have a well-developed and well-proportioned body	.57	.07	-.36	.04	-.11	-.06	-.14	.05	.10
To have a slim body	.50	.20	-.32	.15	-.11	-.01	-.23	-.01	.16
To keep fit	.56	-.16	-.37	-.04	-.04	.07	-.09	-.04	-.03
To stay in good physical condition	.57	-.17	-.35	-.08	-.08	.12	-.07	-.03	-.09
To have a good physique	.55	-.11	-.33	-.07	-.01	.05	-.08	-.04	-.07
Because I like belonging to a team	.50	-.03	.27	-.24	-.07	-.02	-.06	-.30	.03
Because I like group sports	.51	-.21	.38	-.19	-.16	-.03	.02	-.35	-.06
Because I like team spirit	.53	-.23	.30	-.19	-.08	-.08	-.01	-.33	-.04
To relax	.40	-.23	.08	.46	.25	-.08	.05	-.06	.06
To reduce the stress of studies and exams	.39	-.15	.05	.39	.28	-.07	.04	-.08	.04
Because it calms me	.43	-.23	.10	.47	.35	-.07	.11	-.12	.10

Note. Extraction Method: Principal Axis. Rotation Method: non-rotated factors

Table 4
Relationships between the factors and other variables

	Factors									
	N	1	2	3	4	5	6	7	8	9
Gender										
Males	2294	+209	+314	+194	-164	+54	+181	-48	+1	-130
Females	2312	-209	-313	-194	+165	-54	-181	+48	-1	+131
School										
Public	3119	+10	-36	+49	-23	+75	-92	-74	+7	-57
Private	1847	-10	+36	-49	+23	-75	+92	+74	-6	+57
Age										
7-9 years	508	+351	+96	+10	-378	+9	-460	+196	+24	+487
10-12 years	1393	+169	-40	+54	-317	-64	-130	+171	+9	-4
13-15 years	1664	-78	+60	-15	-143	-131	+262	-21	-45	-234
16-18 years	1041	-439	-118	-48	+555	+189	+330	-346	+13	-247
Interest in sport										
Little	80	-452	+344	+212	+457	-42	-418	-163	+317	-59
Some	424	-369	+122	-163	+185	-123	-107	-18	+99	-4
Quite interested	1532	+66	-176	-127	-141	+79	+138	+88	-157	-27
Very interested	2570	+757	-288	+81	-501	+88	+390	+96	-258	+93
Level of activity										
Less than 1 hour per week	374	-316	-17	-34	+116	-114	-223	+9	+161	+21
1 hour per week	774	-88	+137	-98	+90	-8	-147	+92	+20	+27
2-3 hours per week	1306	+48	-87	+42	+40	+53	+31	+17	-70	+63
Over 3 hours per week	2152	+358	-33	+91	-246	+70	+341	-118	-111	-111
Regularity of activity										
Equal all year round	1936	+193	-31	+40	-224	+28	+90	-17	-154	+14
More in summer	2670	-193	+31	-39	+225	-28	-90	+17	+153	-14
Perceived effort										
Very little	42	-501	+836	+326	+449	-414	-137	+223	-322	+28
Little	70	-184	+131	-28	+149	+70	-143	-173	+307	-19
Normal	490	-217	-68	-208	+30	+64	-174	-107	+176	-130
Quite a lot	1984	+149	-467	-88	-208	+90	+120	+1	-7	+26
A lot	4606	+757	-432	+1	-418	+192	+338	+56	-154	+70
Estimation of time during which sport will be practiced										
I will cease to do sport shortly	162	-362	+327	-94	+161	-64	-339	+85	-15	-112
In a few years	614	-293	+23	+50	+75	-98	-82	-35	+127	+34
In many years	1841	+96	-192	+55	-170	+30	+181	-6	-3	+20
Continue all my life	1989	+424	-156	-8	-64	+132	+243	-42	-109	+61
Perceived level of competence										
Very low	76	-192	+335	+100	+420	-175	-448	+74	+31	+22
Low	153	-598	+90	+105	+225	-28	+21	-55	+348	-213
Normal	1482	-265	-219	-133	+140	-13	+33	-49	-26	+32
High	2146	+278	-290	-51	-318	+65	+233	+19	-109	+2
Very high	749	+779	+86	-17	-463	+151	+163	+14	-241	+157
Achievement of goals										
Yes	3092	+379	-270	+52	-30	+85	+141	-10	-104	-58
No	121	-305	+319	+60	-3	-41	-209	+22	-37	+96
Some only	1393	-74	-49	-112	+35	-42	+70	-10	+143	-36
Level of satisfaction with sports activity										
Not at all satisfied	85	-214	+450	-205	+305	+34	-53	+163	-7	+220
Barely satisfied	217	-340	+70	+15	+282	-148	-130	-169	+16	-121
To some degree satisfied	626	-270	-17	-49	+80	-20	-24	-127	+144	-121
Quite satisfied	1757	+123	-258	+65	-193	+88	+106	+28	-2	-41
Highly satisfied	1921	+704	-244	+175	-473	+47	+103	+107	-148	+67
Form of sports practice										
With teacher or trainer	2989	+222	-50	+14	-224	+1	+112	-24	-189	+30
Alone or with friends	1617	-222	+50	-14	+223	-1	-111	+24	+188	-30
Academic influence										
Positive	1682	+365	-269	+68	+97	+217	-79	+87	-52	+18
Negative	490	-17	+296	-44	-67	-50	+52	-68	-3	+71
Neither	1733	-235	-77	+44	+103	-72	+120	-143	+2	-145
Don't know	701	-127	+53	-66	-133	-92	-90	+127	+54	+57

Note. Kruskal-Wallis test. Mean rank of the factors.

on the one hand, those that aim to form affective relationships, attempting to arouse the interest of the opposite sex through sporting achievements in which they overcome their peers and gain a degree of celebrity status and popularity within the group, and on the other, those that look to improve their health, through activities in groups and in a calm, relaxed and fun atmosphere.

Mean scores of the different subgroups are quite significant, and underline this dichotomy. Thus, we observe that those closest to the positive pole and who therefore present a significantly higher average rank are (a) males ($\chi^2= 26.17$; $p<.001$), (b) the youngest group ($\chi^2= 15.49$; $p<.005$), and the groups that: (c) make little effort in their sports activity ($\chi^2= 83.66$; $p<.001$), (d) show least interest ($\chi^2= 50.43$; $p<.001$), (e) fail to achieve the goals of their sports activity ($\chi^2= 42.73$; $p<.001$), which thus (f) derive least satisfaction ($\chi^2= 46.35$; $p<.001$), (g) have a less optimistic view of the influence of sport on academic activity ($\chi^2= 79.44$; $p<.001$), and finally, (h) that believe they will cease to practice sport shortly or within a few years ($\chi^2= 31.01$; $p<.001$). Those closest to the negative pole, meanwhile, with significantly lower average rank, are females, older pupils, and those denoted by the remaining indicators which, as opposed to those referred to above, reflect a high level of intensity in motivation.

The third factor shows the dichotomy between *friendship/fun/team* (positive pole), and *bodily appearance/physical condition/health* (negative pole). In the first case the aim is to be with friends, collaborating and cooperating with them in team sports that are fun and exciting, whilst in the second case what is looked for is to achieve or maintain a good figure or physique, slim and in proportion, as well as fitness, health and personal hygiene. As can be seen, those significantly closer to the positive pole are males ($\chi^2= 98.13$; $p<.001$), the group that does sport for more than three hours a week ($\chi^2= 13.71$; $p<.001$) and those that feel most satisfied with their sports activity ($\chi^2= 20.22$; $p<.001$).

The following factor underscores the bipolarity *relaxation/heterosexuality* (positive pole), and *ability/winning/team* (negative pole). The former group express the need to practice sport because it relaxes them, it calms them down and it permits them to reduce the stress of studying and exams, as well as providing the possibility to arouse the interest of the opposite sex and start up affective relationships. At the opposite pole, what is looked for is to improve one's ability in order to participate successfully in team competitions. The differences between these two groups are also highly significant, and underline the sharp contrast between them. Those closest to the positive pole are females ($\chi^2= 70.54$; $p<.001$), older pupils ($\chi^2= 316.71$; $p<.001$), those that do sport without a teacher ($\chi^2= 122.56$; $p<.001$) and the rest of the groups that present a low level of intensity of motivation for sport, except in achievement of goals and in academic influence (non-significant); this contrasts with those closest to the negative pole, who, as can be seen from the opposite results presented, show a significantly higher level of intensity in motivation.

The fifth factor discriminates between *winning/relaxation* (positive pole) and *heterosexuality/friendship* (negative pole). The positive pole reflects the need to compete, to win and to demonstrate that one can do better than the rest, thus eliminating the tension of study and exams and achieving a state of emotional relaxation and tranquillity, whilst the negative pole reflects the need to establish social relationships. Significantly closer to the positive pole are pupils from public schools ($\chi^2= 13.89$; $p<.001$), the oldest group ($\chi^2= 39.11$; $p<.001$) and those with a more positive view of

the influence of sport on one's studies ($\chi^2= 51.55$; $p<.001$); closer to the negative pole are pupils from private schools and those that make little effort in their sports activities.

The sixth factor presents the following polarities: *fun/ability* (positive pole) and *social approval/prevention of illness* (negative pole). The former expresses intrinsic motivations, such as to have fun, or to enjoy learning new skills or improving those already acquired; the latter is related to extrinsic reinforcements, such as the approval of the trainer or teacher, obtaining good marks, satisfying parents and friends, or preventing illness. As it can be seen, the groups closest to the positive pole are those that present a higher level of motivation toward sport. The differences are quite significant. Those closest to the positive pole are males ($\chi^2= 85.37$; $p<.001$), the oldest groups ($\chi^2= 185.98$; $p<.001$) and those that practice sport with a trainer ($\chi^2= 30.76$; $p<.001$). Moreover, this pole correlates positively with all of the independent variables that reflect a high level of motivational intensity, except academic influence (non-significant). At the opposite pole the results are precisely the contrary.

Factor seven presents the polarities *ability/heterosexuality* and *bodily appearance/fun/friendship*. This factor appears to discriminate between those that wish to improve their sporting technique and establish affective relationships (positive pole) and those for whom sport is a means to the end of developing a slim and attractive body in a fun context in the company of friends (negative pole). As it can be seen, there are no significant differences according to gender, though age does have an effect: the older pupils are closer to the negative pole ($\chi^2= 104.80$; $p<.001$).

The eighth factor appears to discriminate between those that are looking for *friendship relationships/fun* (positive pole) and those that are interested in *team* activities (negative pole). The most significant differences between the two are related to the form of practicing sport (those that do so alone or with friends are closer to the first pole and those that do so with a teacher are closer to the second one), and with: (a) level of interest shown in sport ($\chi^2= 39.60$; $p<.001$), (b) level of sports activity ($\chi^2= 17.59$; $p<.001$), (c) regularity of sports activity ($\chi^2= 63.29$; $p<.001$), and (d) perceived level of competence ($\chi^2= 30.78$; $p<.001$). These variables correlate positively with the negative pole, reflecting a high level of intensity in motivation.

The final factor reflects the dichotomy between *social approval/bodily appearance* (positive pole), and *health* (negative pole). In the first case the need is to be attractive to others and popular thanks to the development and maintenance of a good figure, a slim and well-proportioned body; in the second case what is desired is health and personal hygiene. The most significant differences between the two concern gender ($\chi^2= 44.62$; $p<.001$) and age ($\chi^2= 134.35$; $p<.001$). The youngest pupils are closest to the positive pole.

Discussion and Conclusions

According to our data, the most important motive for practicing some kind of sport is that of the quest for health. It is somewhat surprising that a utilitarian motive, which values the positive effects of systematic physical exercise on the organism, is the most important one in such young people. However, it is less surprising if we consider that in the school context, in which this study is carried out, this is one of the fundamental objectives of Spanish educational policy. Indeed, «bodily health» is a specific and differentiated block

of content whose aim is the training of bodily health and hygiene habits in Primary Education, and this is also the first of the General Objectives, set down in the same Ministry of Education and Science document, of Physical Education in the Secondary phase. This result, moreover, is consistent with those obtained by Ashford et al. (1993) and Alexandris and Carroll (1997), even though these authors worked with samples aged over 18 years.

After health, we find other objectives related to the maintenance and improvement of one's physical condition, the improvement of abilities and sporting prowess, and the quest for fun and amusement. The most significant discrepancy with respect to studies on sports motivation of young people in competitive situations (Brodkin and Weiss, 1990; Cruz and Viana, 1989; Gill et al., 1983; Gould et al., 1985; Klint and Weiss, 1986 and 1987; Lázaro et al., 1993) is the different rating given to motives related to the quest for social approval and to achievement behaviors for overcoming others (demonstrating that one is better than one's peers and winning competitions). Such motives are of little importance for the majority of the school population, and this is an important finding for physical education teachers, psychologists and sports managers. This in no way implies that young sportspeople do not like competition (in fact, in the majority of sports it is an essential condition, forming part of their internal rationale), but we feel that this aspect is subordinate to the achievement of other more important objectives, which in some situations may even act in opposition to competition.

The results of the factor analysis are in general consistent with those of previous research. In our work there appear clearly differentiated the three directions of achievement motivation described by Maehr and Nichols (1980), Nichols (1983) and Roberts (1984). Although this motivational structure has already been observed by Ewing (1981) and Whitehead (1986), in the majority of studies the desire for competitive aptitudes and social approval appear combined in a single factor labeled as achievement-status. Four of the factors coincide with those found by Gill et al. (1983) and Gould et al. (1985): *Team Atmosphere*, *Physical Fitness*, *Ability and Friendship*. Nevertheless, in our research, *Physical Fitness* is linked to slimness and bodily attractiveness, and *Friendship and Fun* make up a single factor. This confluence is consistent with that found by Buonamano et al. (1995), and leads us to understand that, at these ages, fun in the practice of sport is closely related to friendship relations. In contrast to that which occurred in the cited

studies, in our work there appears a further category with respect to affiliation: *Heterosexuality*. To all of these factors are added *Health* and *Relaxation*, which also appear in the study by Ashford et al. (1993). The most important differences according to gender occur due to the fact that males combine in a single factor *Physical Fitness/Bodily Appearance* and *Health*. Females appear to discriminate motivational factors more than males. For males, *Health* is linked to or is a consequence of a good physical condition.

The rotated factors permit us to go beyond the descriptive level and identify the underlying motivational structure. Nevertheless, it offers an excessively simple view of sports motivation. In order to make this perspective more comprehensive we believe it is necessary to carry out a new factorial analysis, in this case principal axes analysis without rotation, and to connect the resulting motivational factors with the variables that measure their intensity. The result is the identification of bipolar subsets that maintain very interesting relationships with the different levels of involvement in sport. In the first non-rotated factor we observe that the importance of the motives determines the intensity of the motivation – that is, those with more motives to participate in sport, and that give it importance, practice it with more intensity. Likewise, we observe that motivational intensity is significantly higher in males, and diminishes progressively with age. The rest of the factors allow us, as already mentioned, to discriminate in a bipolar manner the correlative groups display tendencies that combine motives in a new factorial structure that is wider and more differentiated, and that, moreover, correlates significantly with the different degrees of active commitment to sport. These tendencies offer a fuller and more authentic view of motivation, both for physical education teachers and sports psychologists, since they explain, to a large extent, the attitudes and behaviors of schoolchildren with regard to the practice of sport. This identification of groups of schoolchildren according to the qualitative and quantitative variables in sports motivation provides a very interesting theoretical foundation for a range of professionals (physical education teachers, trainers, psychologists or sports managers), who can make use of it in the design of intervention strategies. We believe that, in the future, this line of research may provide a more complete perspective on sports motivation, on correlating the motives for practicing sport with the variables that measure their intensity.

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