ORIGINAL

SELF-ESTEEM AND SPORTS PRACTICE IN ADOLESCENTS

AUTOESTIMA Y PRÁCTICA DEPORTIVA EN ADOLESCENTES

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ABSTRACT

The study aimed to analyze self-esteem and its relationship and influence with sports, gender and age of schoolchildren. The sample consisted of 715 adolescents, between 12 and 16 years old (54.12% women), classified as sedentary, practicing individual sports and practicing collective sports. For the active subjects, a 16-week intervention program was designed. The Rosenberg Self Esteem Scale and the international questionnaire MVPA were used. The highest self-esteem corresponds to positive self-esteem, showing significant differences favorable to men and physically active adolescents. Teenagers who practice collective sports have greater self-esteem than do individual sports practitioners. Concluding that the amount and type of sport practiced modulate

self-esteem. Age is not a determining factor and sex does influence self-esteem. The two-factor model of the Rosenberg Self Esteem Scale is confirmed.

KEY WORD: Self-esteem; physical activity; psychometric analysis; linear regression.

RESUMEN

El estudio planteó como objetivos analizar la autoestima y su relación e influencia con la práctica deportiva, género y edad de los escolares. La muestra estuvo compuesta por 715 adolescentes, de entre 12 y 16 años (54.12% mujeres), clasificados en sedentarios, practicantes deportes individuales y practicantes deportes colectivos. Para los sujetos activos se diseñó un programa de intervención de 16 semanas de duración. Se utilizaron la Rosenberg Self Esteem Scale y el international questionnaire MVPA. La mayor autoestima corresponde con la autoestima positiva, evidenciándose diferencias significativas favorables a los hombres y a los adolescentes activos físicamente. Los adolescentes practicantes de deportes colectivos presentan mayor autoestima que los practicantes de deportes individuales. Concluyendo que la cantidad y el tipo de deporte practicado modulan la autoestima. La edad no es un factor determinante y el sexo sí influye en la autoestima. Se confirma el modelo bifactorial de la Rosenberg Self Esteem Scale.

PALABRAS CLAVE: Autoestima; actividad física; análisis psicométrico; regresión lineal.

INTRODUCTION

Self-esteem has been widely analysed, but it is still an interesting subject to study due to the controversies that surround it, which range from conceptual to methodological aspects (Caballo, Salazar and the CISO-A Research Team Spain, 2018). Conceptually, self-esteem can be defined as the judgement that one emits on oneself (Espinoza, Rodríguez, Gálvez, Vargas and Yáñez, 2011; Reber, Reber and Allen, 2010; Simkin, Azzollini y Voloschin, 2014), an assessment that can be positive or negative and that can fluctuate due to the circumstances surrounding the person (Marsh and O`Mara, 2008; Rosenberg, 1965). It is considered a multidimensional concept, where variables such as family, friends, work or the partner influence on the conformation of that personal perception (Gálvez and col., 2015; Wood, Tesser and Holmes, 2013). In the school environment, aspects such as academic, physical and social performance are also relevant (Swanepoel, Surujlal and Dhurup, 2015). Although there are studies indicating that positive self-esteem tends to be higher than negative self-esteem in adolescents (Garaigordobil, Pérez and Mozaz, 2008; Martín-Albo, Nuñez, Navarro and Grijalvo, 2007; Salvador, García-Gálvez and De la Fuente, 2010; Vázquez, Vázquez-Morejón and Bellido, 2013), it is still important to develop a high and positive self-esteem, as it can affect psychological well-being and life satisfaction (Hewstone, Stroebe

and Jonas, 2008), thus improving the personal and physical self-perception (Curran, 2012; Haugen, Ommundsen and Seiler, 2013).

Adolescence is a crucial stage, since healthy habits and lifestyles are generated throughout these years, and then reflected in adulthood (Ahamed and col., 2016). In fact, age plays a very important role in self-esteem, leading to a decline in general self-esteem as children approach adolescence (Robins, Tresniewski, Tracy, Goling and Potter, 2002). In adolescence, self-esteem goes through a period of instability, since for adolescents physical appearance and its similarity to socially accepted ideals of beauty are very important when having a positive perception of themselves (Van der Berg, Mond, Einsberg, Ackard and Neumark-Sztainer, 2010).

Although there is evidence that physical-sport practice improves self-esteem (Ahmed, Mladenovic, Ho, Lee and Khan, 2014; Revuelta, Esnaloa and Goñi, 2016; Wagnsson, Lindwall, and Gustafsson, 2014), and is positively related to perceived competence, in adolescence there is a decrease in practice (Altıntaş and col., 2014), ignoring that being physically active can improve the psychological well-being of the person, as long as this practice is developed within a context and with certain characteristics, in terms of frequency, intensity, duration, type of exercise, etc. (Ahamed, 2013; Altıntaş and col., 2014). Similarly, adolescents who are not very satisfied with their bodies have lower levels of self-esteem (Chen, Fox, Haase and Ku, 2010; Mickūnienė, Pajaujienė and Jankauskienė, 2014; Morano, Colella, Robazza, Bortoli and Capranica, 2011). D´ Anna, Rio and Gómez (2015) determined that active adolescents had greater self-esteem than the sedentary ones, but found no differences between the type of sport practiced (individual and collective). Parameters related to self-esteem, such as self-confidence, do not show a clear consensus regarding the type of sport practiced, although there are studies that relate higher levels of self-confidence with collective sports, Zeng (2003), and others with individual sports (Fradejas, Espada and Garrido, 2017; Radzi, Yusof and Zakaria, 2013; Sagar and Jowett, 2012).

Self-esteem can also be negatively affected by gender differences associated with lower sports practice, especially among women (Zaborskis and Raskilas, 2011), with higher levels of self-confidence in individual sports among men (Fradejas and Espadas, 2018). In fact, Ahamed (2013) found that active adolescents felt better personal well-being than the inactive ones, mainly among men. These differences are established from childhood when children practice sports socially associated with gender roles (Eime and col., 2013; Telford and col., 2016), due to the pressure that society exerts on body image (Latorre-Román, López, Izquierdo and García-Pinillos, 2018). In order to overcome these social stigmas and favour the sports practice among women, it is necessary to programme the activity rigorously, making it more attractive and adjusted to their interests and needs (Swanepoel, Surujlal and Dhurup, 2015).

If you want to investigate self-esteem, it is necessary to know how to evaluate it with the appropriate instruments. As Caballo, Salazar and CISO-A Research Team Spain (2018) point out, there are different methods of evaluating self-esteem, indirect ones such as the implicit association test (Graenwald, McGhee

and Schawart, 1998), or self-reports such as the Rosenberg Self Esteem Scale (RSES; Rosenberg, 1965). This scale has been widely used internationally and its internal consistency has been validated in diverse population groups as adolescents, university students and adults (Atienza, Moreno and Balaguer, 2000), presenting a high internal consistency (DiStefano and Molt, 2006; Lindwall and col., 2012; Moral, Valle, García and Pérez, 2014).

Although self-esteem and sports practice have been analysed previously, there is not enough information that relates self-esteem to the physical-sports modality practiced. Therefore, the objectives of this research paper are to study the differences in self-esteem based on sport practice, type of sport, age and gender. As a working hypothesis, it was suggested that: people who perform physical activity (PA) have higher self-esteem than sedentary people; self-esteem is higher among collective sports practitioners compared to individual sports; the older, the lower self-esteem; men have higher self-esteem than women.

METHOD

Design and participants

It is a quasi-experimental and comparative study, with three randomised groups: one control group and two experimental groups. A total of 715 Spanish students (54.12% girls) between the ages of 12 and 16 (14.22 ±1.59 years) participated. We worked with an error < .03, with a 95% confidence level. All participants belonged to 9 centres of Compulsory Secondary Education (ESO according to its Spanish acronym) located in urban areas (Castile and Leon, Andalusia and Madrid). In this research, we considered as urban environments those towns with more than 10,000 inhabitants. Participating students were distributed in three groups (figure 1): control group (CG), all sedentary; experimental group, individual sports (EGIS); experimental group, collective sports (EGCS).
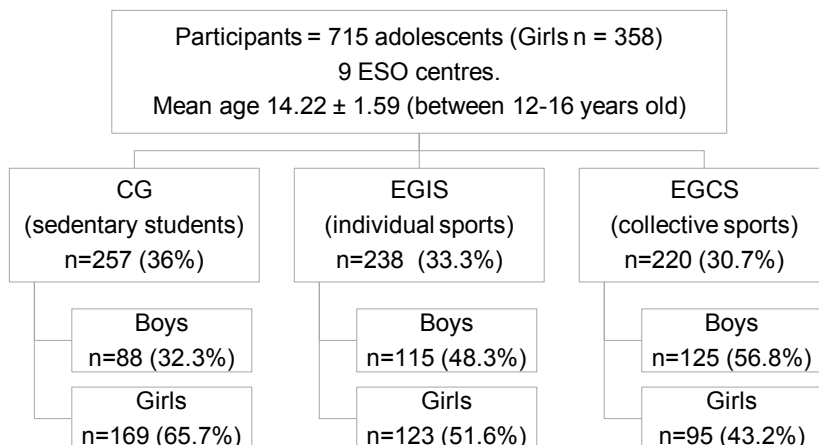

Figure 1. Flow of participants according to the level of PA practice (control group; experimental group, individual sports and; experimental group, collective sports) and gender.

The follow-up of the work carried out by the students, as well as the administration of all the trials and tests was supervised by the principal investigator, and developed in practice by teachers specialised in physical education, with at least ten years of teaching experience, and who had been duly trained with the different instruments and materials used in this research.

Instruments

PA practice questionnaires. The International "MVPA" questionnaire was used to evaluate the PA practice level (Prochaska, Sallis and Long, 2001). This instrument is composed of two items that collect information on the days of a week that at least one hour of moderate to vigorous PA is performed, both in the previous week and in a typical week. The response scale for both was the same (0=no day, 1=one day, 2=two days, 3=three days, 4=four days, 5=five days, 6=six days, and 7=seven days). In that study, the two items were used and the mean of both was found, just as in previous studies (Martínez-López and col., 2015; Martínez-López, Cerceda, Manzano and Ruiz-Ariza, 2018). The internal consistency of the questionnaire was found with high values (Cronbach's Alpha = .881). This questionnaire served to make two initial groupings of low PA (sedentary) and practice level of moderate to vigorous PA (active).

Self-esteem questionnaire. Rosenberg Self Esteem Scale (RSES) by Rosenberg (1965) was used to analyse self-esteem, specifically the Spanish version carried out by Atienza, Moreno and Balaguer (2000) was used. This instrument includes 10 statements describing the feelings that one has about oneself, using a Likert scale with 4 answer options (from 1: Strongly disagree to 4: Strongly agree). The inverse score is assigned to the negatively addressed statements (items 2, 5, 8, 9 and 10). Agreeing with Caballo, Salazar and CISO-A Spain (2018), this distribution of items sometimes provokes different factor structures, being aware of the fact that there is a greater tendency to consider the scale from the one-dimensional perspective (Aluja, Rolland, García and Rossier, 2007). Although it cannot be denied that the factorial structure of RSES itself is not simple, this could affect the interpretation of the answers issued by the interviewees. In spite of everything, different studies have accredited a high reliability with Cronbach's Alphas of .81 (Cheng, Zhang and Ding, 2015), .88 (Fleming and Courtney, 1984) and an acceptable test-retest of .82 (Fleming and Courtney, 1984). Theoretical values range from 10 (low self-esteem) to 40 (high self-esteem). The reliability of the scale in the Spanish version (Atienza, Balaguer and Moreno, 2000) is .80, and the internal consistency of the scale is between .76 and .87.

Procedure

The study was adjusted to the current Spanish legislation regulating research on human beings (Royal Decree 561/1993), respecting at all the times the personal data protection law (Organic Law 15/1999) and always complying with the ethical guidelines established in the Declaration of Helsinki (2013 revision). The school and the parents were informed by letter; subsequently the parents

or legal guardians provided their informed consent and the school gave its approval.

Among the exclusion criteria, they were established: to incompletely answer all questionnaires, not to submit the parental or legal guardian authorisation, to show some type of illness during the study period incompatible with the PA practice or not to complete the programme in all the stipulated weeks. At all times, the anonymity of the participants was guaranteed since they worked with a system of codes, which favoured the confidentiality of the answers provided. Participants were also followed up, applying attrition analysis that help to identify which participants have withdrawn from the study and which ones have been part of the whole process.

The MVPA questionnaire made it possible to identify participants who did not practice PA on a regular basis or the practice was sporadic and always less than one day a week. This allowed the selection of sedentary students (CG) and after this initial evaluation, the experimental groups (EGIS and EGCS) were created. A work programme was designed for both experimental groups. During 16 weeks, they did 3 weekly sessions, of at least 60 minutes of PA, each one of them in the corresponding sport modality (individual sports or collective sports). The playground was a 40x20 metre multi-sports court. The practice sessions were led by physical education teachers. The control group was instructed not to alter their daily routine, to remain sedentary.

In order to verify that the planned work programme had been complied with at all times, participants were asked to fill out a registration sheet with the weekly sessions of individual or collective sport practiced, during the 16 weeks of the study, on a weekly and individual basis, before going to bed on Sunday. Subsequently, during tutoring hours, the responsible researcher compared that record sheet (from the previous week) together with each student and transferred that information to his/her own database. This record was made individually with each student and the approximate time was about 5 minutes. Thus, it was checked if the entire final sample had met the participation requirements foreseen in the inclusion criteria (attrition analysis); the students who did not comply with the work planned in any week were removed from the study. The questionnaires to be completed were administered by the same researcher within a single session, lasting 20 minutes, in the usual class timetable. Brief instructions were offered and participants were assured that the answers provided were confidential. Participation was entirely voluntary. The interviewees did not receive any academic or monetary compensation for their contribution. In order to avoid the possibility that the answers of the interviewees were conditioned, a code system was established guaranteeing at all times the anonymity and confidentiality of participants.

Data analysis

The analyses were carried out with the Statistical Package for Social Science® software (SPSS - 22.0 v. Chicago, Illinois, USA) and the Amos package, establishing statistical significance at a value of p≤0.05. Normality tests (Kolmogorv-Smirnov test) and missing values were carried out. A descriptive

study was performed using frequency analysis (T test for continuous variables and Chi2 for categorical variables), which allowed us to extract the most accurate information possible about the characteristics of the sample. The reliability coefficient and the internal consistency of the scale were studied using the Cronbach *Alpha* test and the Split-Half test. A confirmatory factorial analysis was performed. Bivariate correlations and comparisons of mean values were analysed with the ANOVA test between RSES (dependent variables) and the independent variables used (gender, age and PA practice group). Linear regression analysis was conducted to determine the influence of the independent variable of physical-sport practice (CG, EGIS and EGCS) on the dependent variable which is the self-esteem; all adjusted by gender and age as covariates.

RESULTS

Reliability was analysed for this sample obtaining a coefficient for the full scale of α=.778 which indicates a satisfactory reliability of the test. Taking the two factors into account, the one that best fits the desired parameters is positive self-esteem (α=.759) followed by negative self-esteem (α=.631). It was decided to maintain the same factorial structure proposed in the original version, taken as reference in this study, which explains the 48.45% of variance.

A confirmatory factorial study (AMOS 6 programme) was carried out for each of the dimensions with the most parsimonious model possible, i.e. without correlations between the observed variables (table 1). According to the recommendations of the different authors, both the positive and negative self-esteem factors meet most of the goodness of fit criteria chosen in the different tests calculated. In this regard, it should be clarified that the positive self-esteem dimension is the only one that fulfilled the total fit indicators (P CMIN > .05). In the global fit parameters (GFI and AGFI), the score obtained was always above the recommended values (> .90) for this test. For the different incremental fit tests, almost all values remained above the recommended (> .90).

Table 1. Confirmatory Factorial Analysis.

	Test	Goodness of fit Criteria	Global	Positive Self-esteem	Negative Self-esteem
Total Fit	P CMIN[1]	>.05	<.000	.133	<.027
	RMSEA[2]	≤.06	.087	.47	.070
	(p-close)[2]	(>.05)	(.000)	(.467)	(.205)
	RMR[3]	>.80	.029	.009	.030
Global Fit	GFI[4]	>.90	.930	.989	.984
	AGFI[5]	>.90	.886	.967	.951
Incremental Fit	NFI[6]	>.90	.846	.978	.914
	RFI[7]	>.90	.796	.956	.828
	IFI[8]	>.90	.887	.991	.946
	CFI[9]	>.90	.848	.981	.888
	TLI[10]	>.90	.885	.991	.944

[1]P CMIN: P-value of the Minimum Chi-Square (Brown, 2006) calculated from χ^2/df

[2]RMSEA (Root Mean Square Error of Approximation) (Hu & Bentler, 1999).

[3]RMR (Root Mean Square Residual) (Joreskog & Sorbom, 1993).

[6]NFI (Normed Fit Index) (Bentller & Bonet, 1980).

[7]RFI (Relative Fit *Index*).

[8]IFI (Incremental Fit Index) (Bollen, 1989).

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[4]GFI (Goodness of Fit *index*) (Joreskog y Sorbom, 1989).
[5]AGFI (Adjusted Goodness of Fit *Index*) (Joreskog & Sorbom, 1989).

[9]CFI (Comparative Fit Index) (Bentler, 1990).
[10]TLI (Tucker-Lewis Index) (Bentler & Bonet, 1980).

For the description of the items and of each scale (one-dimensional: global self-esteem, and two-dimensional: positive and negative self-esteem), the descriptions of mean, median, standard deviation, asymmetry and kurtosis were calculated. The highest means correspond to the elements that make up the positive self-esteem scale (17.5±2.1), of which items 1, 4, 6 and 7 have the highest mean values. However, the negative self-esteem scale has lower averages (8.7±2.5), being items 2 and 5 those with lower scores. The overall score of the scale was 26.2 points.

As it can be seen in table 2, the global self-esteem shows significant differences between the three PA practice groups ($F_{(2,713)}=19.46$; p= .008), with EGIS (19.30±1.93) and EGCS (19.79±1.83) subjects (especially collective sports) showing higher self-esteem than those of CG (18.92±2.31). In the positive self-esteem, the significant differences are favourable to men ($F_{(1,713)}=19.05$; p= .036) (17.71±2.10 vs. 17.22±2.04). On the other hand, negative self-esteem reflects significant differences in PA ($F_{(2,713)}=4.83$; p= .009), being sedentary ones (CG) (9.29±2.82) those who perceive more negatively their self-esteem compared to EGIS (8.75±2.59) and EGCS (8.18±2.23). No significant differences were found in the other variables analysed.

Table 2. Descriptive and variance analysis of Rosenberg's self-esteem scale by gender (M: male and F: female), age (12-13, 14-15 and 16 years) and PA level (CG: sedentary, EGIS: active individual sports and EGCS: active collective sports).

Factor	Group	Descriptive			ANOVA				
		Mean	SD	Typical Error	Sum of squares	DF (D,N)	Root mean square	F	Sig.
GLOBAL SELF-ESTEEM	M	26.29	2.29	.18	Inter G: 8.85 Intra G: 1649.211	1,713	8.95	1.70	.19
	F	25.95	2.29	.18					
	12-13	26.16	2.62	.23	Inter G: 1.69 Intra G: 1656.47	2,712	.85	.16	.85
	14-15	26.17	1.91	.17					
	16	26.00	2.29	.25					
	CG	18.92	2.31	.25	Inter G: 38.93 Intra G: 1250.20	2,713	19.46	4.85	.008
	EGIS	19.30	1.93	.18					
	EGCS	19.79	1.83	.16					
POSITIVE SELF-ESTEEM	M	17.71	2.10	.17	Inter G: 19.51 Intra G: 1347.34	1,713	19.05	4.426	.036
	F	17.22	2.04	.16					
	12-13	17.33	2.15	.19	Inter G: 3.46 Intra G: 1362.93	2,712	1.73	.397	.673
	14-15	17.55	1.99	.18					
	16	17.53	1.11	.23					
	CG	17.13	2.35	.26	Inter G: 21.90 Intra G: 1344.49	2,713	10.95	2.54	.080
	EGIS	17.35	2.05	.20					
	EGCS	17.76	2.08	.11					
NEGATIVE SELF-ESTEEM	M	8.58	2.51	.20	Inter G: 1.81 Intra G: 2039.09	1,713	1.81	.289	.591
	F	8.73	2.58	.20					
	12-13	8.83	2.62	.23	Inter G: 7.04 Intra G: 2033.92	2,712	3.52	5.41	.583
	14-15	8.61	2.25	.21					
	16	8.46	2.81	.31					
	CG	9.29	2.82	.31	Inter G: 61.40 Intra G: 1979.56	2,713	30.70	4.83	.009
	EGIS	8.75	2.59	.25					
	EGCS	8.18	2.23	.19					

Inter G: Inter Groups, Intra G: Intra Groups, DF: Degrees of Freedom, N: Numerator, D: Denominator
M: male, F: female, 12-13: schoolchildren aged 12-13, 14-15: schoolchildren aged 14-15, 16: schoolchildren aged 16,
CG: control group, EGIS: experimental group individual sports, EGCS: experimental group collective sports.

The analysis of bivariate correlations shows that the relationship between self-esteem and the other variables evidences that PA practice correlates positively with global self-esteem (r=.173, p ≤.01) and positive self-esteem (r=.125, p ≤.05), which indicates that at a higher level of PA practice, global and positive self-esteem increases. On the other hand, negative self-esteem correlates negatively with the other variables (table 3).

Table 3. Correlation between self-esteem and gender, age and physical activity practice.

		Global Self-esteem	Positive Self-esteem	Negative Self-esteem	Gender	Age	PA (CG, EGIS and EGCS)
Global Self-esteem	PC	1	.844	-.899	.080	.065	.173
	Sig.		.000	.000	.157	.247	.002
Positive Self-esteem	PC		1	-.524	.118	.049	.125*
	Sig.			.000	.036	.387	.027
Negative Self-esteem	PC			1	-.030	-.064	-.173
	Sig.				.591	.257	.002
Gender	PC				1	.000	.206
	Sig.					.994	.000
Age	PC					1	-.052
	Sig.						.360
PA (CG, EGIS and EGCS)	PC						1

PC: Pearson correlation; Sig.: significance.
CG: control group, EGIS: experimental group individual sports, EGCS: experimental group collective sports.

A linear regression analysis was applied using the Enter method. Self-esteem was introduced as a dependent variable and the PA practice as an independent variable, gender and age acted as covariates. There is a significant influence of PA on global self-esteem (B= .423; Typical Error= .144; t= 2.947; R= .038 F1,711=: 4.044; p<.01) and negative self-esteem (B= .423; Typical Error= .144; t= 2.947; R= .038 F1,711=: 4.044; p<.01). The other results are shown in table 4.

Table 4. Regression analysis: self-esteem (dependent variable) and level of physical activity practice (independent variable), fitted with the independent covariates: gender and age.

		Non-standardised coefficients		Standardised coefficients			One Way ANOVA			
		B	Typical Error	Beta	T	Sig.	Sum of squares RG(RS)	Root mean square RG(RS)	F	Sig.
Global Self-esteem	Cons.	18.418	.593	-	31.046	.000	48 (1240.743)	16.133 (3.990)	4.044	.009
	Gender	-.183	.230	-.045	-.797	.426				
	Age	.187	.140	.074	1.332	.184				
	PA	.423	.144	.168	2.947	.003				
		R: .194 - R²: .038 - R² fitted: .028 - df: 3, 711 - Durbin-Watson: 1.766								
Positive Self-esteem	Cons.	17.199	.614	-	28.013	.000	37.450 (1328.950)	12.483 (4.273)	2.921	.034
	Gender	-.399	.238	-.096	-1.677	.094				
	Age	.141	.145	.054	.973	.331				
	PA	.280	.149	.108	1.881	.061				
		R: .166 - R²: .027 - R² fitted: .018 - df: 3, 711 - Durbin-Watson: 1.765								
Negative Self-esteem	Cons.	10.363	.747	-	13.869	.000	72.390 (1968.582)	24.130 (6.330)	3.812	.010
	Gender	-.033	.290	-.006	-.113	.910				
	Age	-.232	.176	-.073	-1.315	.190				
	PA	-.567	.181	-.179	-3.133	.002				
		R: .188 - R²: .035 - R² fitted: .026 - df: 3, 711 - Durbin-Watson: 1.841								

Cons.: constant; PA: (CG, EGIS and EGCS); RG: Regression; RS: Residual

DISCUSSION

This study proposed as a general objective to examine the differences in self-esteem according to sport practice, type of sport, age and gender.

The overall reliability of the scale is positioned within the recommended values (Nunnaly and Bernstein, 1998), coinciding our findings with those found in other studies (Moral, Valle, García and Pérez, 2014; Rosenberg, 1965; Vázquez, Vázquez-Morejón and Bellido, 2013). The results of the descriptive analysis show that positive self-esteem values of adolescent students are higher than those of negative self-esteem. According to the overall score of the scale, self-esteem can be understood as high, compared to what Castro (2015) found. These results are similar to those found by Vázquez, Vázquez-Morejón and Bellido (2013), although slightly lower than those of Salvador, García-Gálvez and De la Fuente (2010), Garaigordobil, Pérez and Mozaz (2008) and Martín-Albo, Nuñez, Navarro and Grijalvo (2007) who obtained a higher global self-esteem. Exploratory factor analysis tends to separate positive and negative factors, a circumstance that matches other studies (Alessandri, Vecchione, Einsenberg and Laguna, 2015; Caballo, Salazar and CISO-A Research Team Spain, 2018). After the confirmatory factorial analysis, by means of the statistical programme Amos 6, an adequate global fit was verified in most of the indicators, also showing an adequate fit to the model of a factor. By factors, our data show satisfactory results in most of the parameters analysed, in the negative and positive self-esteem scale, especially in the last one. Data that agree with Moral and col. (2014), and partially with Martín-Albo and col. (2007). We agree with Caballo, Salazar and CISO-A Research Team Spain (2018) in the importance of RSES as an instrument widely accepted by the scientific community in the evaluation of self-esteem.

The first hypothesis is confirmed, since the level of PA is positively related to global self-esteem and positive self-esteem, a trend similar to that found by Mahoney (2014), Wagnsson, Lindwall, and Gustafsson (2014) and Legrand (2014). Therefore, some authors highlight the importance of PA at an early age (Inchley, Kirby and Currie, 2011; Mickūnienė, Pajaujienė and Jankauskienė, 2014), as it has been confirmed that adolescents with better physical condition present a higher level of global self-esteem (Ng, Välimaa, Rintala, Tynjälä, Villberg and Kannas, 2014).

Correlation analysis, completed with regression analysis, reflects the influence of PA practice as a modulating activity on self-esteem, with sedentary people showing lower global self-esteem and higher negative self-esteem. The findings of Scarpa (2011), Swanepoel, Surujlar and Dhurup (2015) or D´Anna, Rio and Gómez (2015) are very similar. According to our results, the second hypothesis is confirmed, since the active subjects who practise collective sports are those with the highest levels of global and positive self-esteem. This resembles the conclusions of Zeng (2003), where in a similar study valuing self-confidence they determined that it was higher in athletes who practised collective sports. However, this contrasts partly with other studies where people practising individual sports had higher self-confidence than those practising collective sports (Fradejas, Espada and Garrido, 2017; Radzi, Yusof and Zakaria, 2013; Sagar and Jowett, 2012).

The results of the present research do not fully confirm the third hypothesis, since self-esteem is not always lower in the older adolescent group, showing similar levels of self-esteem in all age groups. Nevertheless, adolescents' perception of themselves tends to fluctuate over time (Van der Berg, Mond, Einsberg, Ackard and Neumark-Sztainer, 2010).

The fourth hypothesis is confirmed, since according to the analysis of the variance, boys have higher self-esteem than girls, becoming this difference significant in terms of positive self-esteem, as occurred in the studies of Martín-Albo and col. (2007), Garaigordobil, Pérez and Mozaz (2008), Salvador, García-Gálvez and De la Fuente (2010) and Caballo, Salazar and CISO-A Research Team Spain (2018).

CONCLUSIONS

The amount and type of sport practised modulates self-esteem, which is in fact higher among adolescents who practise collective sports. Age is not a determining factor in self-esteem. Gender influences self-esteem, with boys having higher levels than girls. On the other hand, the bifactorial model of the RSES is confirmed.

LIMITATIONS AND FUTURE PROSPECTS

This study was not free of limitations, e.g. not performing a post test. It is also necessary to be aware of the fact that although the use of self-report measures is an accepted and useful tool (Pintrich, 2004, p. 391), it may have deficiencies when extracting information. Owing to that, it is essential to design previous practical training sessions that explain all observable behaviours with greater clarity, which would help students to better observe their behaviour, attitudes or emotions (Núñez, Solano, González-Pienda and Rosário, 2006).

For future research lines, a longitudinal study could be designed to analyse how self-esteem fluctuates based on the level and type of physical-sports practice carried out, and thus be able to extract more solid causal relationships. One of the most important practical applications can be the contribution in physical education classes, helping teachers in the proper choice of sports content with the aim of improving self-esteem and motivation of students, increasing the time of physical-sports practice. Bearing in mind that when teachers promote co-responsibility in the teaching-learning process, to some extent, the adoption of healthy habits is also favoured (González-Cutre and col., 2014; Merino-Barrero, Valero-Valenzuela and Belando Pedreño, 2019; Moreno-Murcia, Huéscar and Cervelló, 2012; Moreno-Murcia and Sánchez-Latorre, 2016).

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