

# Body appreciation as a multifactorial construct in adolescent athletes and their athletic achievements

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## ABSTRACT

Given the strong cultural and social messages that encourage men and women to feel dissatisfied with their bodies, the cases of affection are increasing, since the standards and stereotypes imposed by society are not always adequate when talking about health or are even so far from reality and encourage some people to attempt against their health and physical integrity for the mere fact of complying with them, and adolescent athletes are no strangers to this situation. This was a quantitative cross-sectional observational study with a participation of 354 adolescent athletes between 10 and 19 years of age, of whom 51.4% were male and 48.6% female. A sociodemographic survey and the Body Appreciation Scale were applied. The results showed a high level of body appreciation in the participants and significant relationships with the years of sports practice and the result of the last competition. To conclude, although this research found variables that can influence the level of body appreciation, it is important to investigate further and include other aspects such as relationships with peers, coaches, family members and social networks, since the feelings and thoughts of adolescent athletes about their bodies influence their mental health and consequently their sports performance.

**Keywords:** Body appreciation scale, Body image, Sports health, Adolescent.

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## INTRODUCTION

Thoughts, feelings, and actions about the body have become a focal point of interest for society, since they generate the adoption of healthy lifestyles or, on the contrary, retaliation to punish the body and comply with ideas of beauty that undermine personal integrity (Hepburn & Mulgrew, 2023). This refers specifically to body appreciation, which is a multifactorial and dense construct, in terms of self-perception and attitude towards the body; that is, thoughts, feelings and behaviours directed towards the evaluation and orientation of appearance, body esteem and the accuracy of size perception (Thompson et al., 2002).

Thus, positive body image appreciation is related to the acceptance of one's own body regardless of its size, shape, imperfections and stereotypes, respecting and caring for it through healthy lifestyles accompanied by resistance to the internalization of unrealistic beauty standards (Baladia, 2016). Consequently, those with positive mental health behaviours can use their social support systems to cope with and manage social pressure in a way that decreases the risks of depression and anxiety, feelings that can lead to demotivation, health problems, and poor school and sports performance (González et al., 2023).

Studies show advantages of high body appreciation, represented in women by high levels of optimism, self-esteem and coping through positive rational acceptance and lower levels of self-presentational perfectionism (Williams, 2004).

In adolescents, body dissatisfaction has been found in the range between 12 and 16 years of age without significant differences between sexes (Baile et al., 2002); significant relationships between body appreciation and body mass index, as well as body appreciation and self-esteem (Jauregui & Bolaños, 2011); greater body appreciation but high indices of body pressure by context (Sundgot et al., 2021) and greater body appreciation in those who practice some sport, than in those who do not (Fischetti et al., 2020; Soulliard et al., 2021); similarly, high levels of body appreciation have been found in those adolescents who have high levels of physical activity (Rosa, 2019).

Although adolescent athletes are believed to be protected from mental health problems due to a higher self-esteem, sense of connectedness, and social support from teammates (Armstrong & Oomen, 2009), they may be more susceptible to body dissatisfaction due to the demands of sport participation (Wolanin et al., 2015), probability of injury (Rogers, et al., 2023), expectations versus sport outcomes, and critical comments from parents or coaches about weight or body shape (Scott et al., 2022).

Regarding the sex of adolescent athletes, studies show that the male sex has a greater body appreciation (He et al., 2020; Lagos et al., 2022; Reyes, 2020; Ripalda, 2022), especially in those who practice water sports and team sports; likewise, in relation to females, greater body appreciation has been found in sprinters than in volleyball players; in athletes who train less than 5 times a week over those who train more than 9 times a week; female athletes in disciplines of indirect competition (rowing, athletics) than direct competition against the opponent (field hockey, volleyball, sumo, judo) (Budzisz & Sas-Nowosielski, 2021).

The justification for this study of body image perception aimed at identifying body appreciation in Colombian adolescent athletes lies in the fact that it could help the athlete's interdisciplinary team to prevent the alteration of body appreciation by discovering strengths to face the thoughts that threaten it, identifying work strategies to counteract to a large extent those ideas that may threaten this well-being and generating a specialized accompaniment by the coach and the people of the family and social circle closest to the athlete. For all the above, the objective of this research is to evaluate body appreciation by characterizing sociodemographic

variables (sex, housing area, educational level, study sector, socioeconomic stratum and means of transportation) and sports profile (training, years of sports practice, hours of training, result of last competition, sports sector, and type of discipline) in Colombian adolescent athletes.

## MATERIALS AND METHODS

### ***Study design and participants***

This was a quantitative descriptive observational study. The participants of this study were 354 Colombian athletes of collective and individual disciplines; 182 male and 172 female, aged between 10 and 19. This sample was part of a population of adolescent Colombian athletes enrolled in the National Talent Selection Program of Colombia carried out during 2022. To calculate the sample, a 95% level of reliability and a 5% margin of error were considered. Inclusion criteria for this study were that the athletes had been practicing sports for at least two consecutive years at the date of the survey, that they had signed assent and informed consent and filled out the questionnaire in its entirety, had not had injuries, medical treatments, or surgeries in the last year, belonged to a sports league in Colombia and were enrolled in the National Talent Selection program.

### ***Procedure***

First, the sociodemographic survey was designed to obtain the personal and sporting information of the participants and was completed with the scale to determine whether the athletes had a high or low level of body appreciation. Through the database of the National Talent Selection program, we had access to the coaches and methodologists in charge of the athletes who were contacted and put in context of the research. A pilot test was carried out to establish adjustments of comprehension, call and time of diligence and the invitation to participate was sent to all the athletes of the program. Finally, both the demographic and body appreciation instruments were applied, as specified below.

### ***Study questionnaire***

To identify the level of body appreciation of the study participants, the Body Appreciation Scale was used which has been developed and validated (Avalos et al., 2005); revised and evaluated (Tylka TL & Wood-Barcalow, 2015) and translated and adapted for the Spanish context (Swami, 2017). It is a 13-item instrument with a single dimension in factorial structure. It has adequate internal consistency with a Cronbach's  $\alpha$  coefficient of 0.94 and construct validity. Its objective is to study the positive aspects of body image. The items are rated on a 5-point scale (1 = never; 2 = rarely; 3 = sometimes; 4 = often; 5 = always) and averaged to obtain a Body Appreciation score. The Body Appreciation scale has several core aspects of positive body image. It has psychometric support with internally consistent and stable scoring, demonstrating evidence of incremental and construct validity; it is useful for predictive investigations of variables that contribute to possessing a positive body image, is short, is quickly administered, requires only a few minutes to complete, and is easily scored.

The adaptation of this scale for the Colombian population was carried out by Tibasosa in 2020 in a study that sought to establish the agreement of seven experts in the evaluation of the adequacy, coherence and clarity of the survey translated into Spanish in athletes from a university in the Colombian capital, students between 10 and 22 years of age. The kappa value was 0.94% with 95.7% comprehensibility. This version was then adapted to Spanish, supported by the validity of appearance and comprehensibility with idiomatic, conceptual, and semantic equivalence in relation to the original version (Tibasosa, 2020).

### **Statistical analysis**

The Statistical Package for Social Science - SPSS Version 20 was used for the analysis of the information collected and the calculation of measures and frequencies.

To indicate the sociodemographic characteristics of the Colombian adolescent athletes participating in this study, descriptive statistics were used. In the univariate analysis, for quantitative variables, measures of central tendency (mean, standard deviation, minimum and maximum) and frequencies and percentages were used for qualitative variables. For the bivariate analysis, the correlation of different variables was observed, these being: body appreciation, years of sports practice and result of the last competition; these were worked with Pearson's correlation test, this having verified that the normality assumption was met, which was carried out by means of the Shapiro Wilk test.

The T-student test was used to review the possible existence of statistically significant differences between body appreciation and its stratification by sex. ANOVA was used to determine the existence of statistically significant differences between the mean body appreciation and the variables educational level, sector of study, socioeconomic stratum and means of transportation used by Colombian adolescent athletes.

### **Ethical consideration**

The participation in this study was voluntary and accepted by signing an informed consent and assent form ensuring confidentiality through numerical codes and file encryption. This research was approved by the ethics committee of the National School of Sports from Colombia by number 17.133 of May 22, 2022.

## **RESULTS**

### **Sociodemographic data**

The research participants were 354 athletes, 51.4% (n = 182) were male while the remaining were female (n = 172), with a mean age of 15.59 years, maximum of 19 and minimum of 10 (standard deviation [SD], 1.938). The majority lived with their grandmothers and siblings 51.1% (n = 181) and 37.3% (n = 132) respectively. Considering schooling, 87.6% (n = 310) of the population was studying at the time of the survey; 64.4% (n = 228) of the participants studied in public institutions and 23.2% (n = 82) in private institutions. As for their level of schooling, 86.2% of the athletes (n = 305) were studying in secondary school, grades six to eleven, and only 0.3% (n = 1) were pursuing professional studies. On the other hand, the predominant means of transportation among the participants was walking (feet) with 39.8% (n = 141), the second most used was motorcycle with 22.6% (n = 80) and the least used was bicycle for 10.2% (n = 36) of the athletes.

In terms of health, 95.5% (n = 338) of the participants reported not having any diseases and of those mentioned were 5 athletes with obesity, 4 with a chronic disease (diabetes, arterial hypertension, or dyslipidaemia), 3 with depression, 2 with pulmonary disease, 1 with epilepsy and another with hydronephrosis. On the other hand, 76.9% (n = 272) of the athletes indicated having no family health history and within 23.7% (n = 82), the most reported disease was cardiovascular disease in 8.2% (n = 29) and having more than one of these diseases mentioned in 6.5% (n = 23).

With regard to the sports practiced by the adolescents surveyed, it was possible to differentiate between running sports (roller skating, athletics, para-athletics) 32.4% (n = 115); ball sports (basketball, soccer and volleyball) with 30.2% (n = 107), combat level sports (boxing, judo, karate do, wrestling and taekwondo) with 13.8% (n = 49), strength sports (rugby and weightlifting) 12.1% (n = 43), water sports (underwater, diving, conventional swimming, para swimming) 3.2% (n = 11); art and movement sports (rhythmic and artistic

gymnastics) 2% (n = 7); racquet sports (badminton and tennis) 0.8% (n = 3); table sports (chess) 0.8% (n = 3) and bicycle sports (BMX cycling and road cycling) with 4.5% (n = 16). Additionally, it was evidenced that 67.8% (240) of the athletes practice an individual discipline, 64.4% (n = 228) of the participants reported having been on the podium in their last competition, which were managed in 91% (n = 322) at the national level. Finally, with respect to training time, the years of practice according to the participants were around 6; the training sessions were several days a week, with at least one per day with an approximate of 2 hours per training session per day.

**Body appreciation**

To determine the body appreciation of Colombian adolescent athletes, the Body Appreciation Scale (BAS) was used. The descriptive statistics showed a mean of 43.56 and a standard deviation of 8.460. With respect to the body appreciation variable, the means stratified by sex were 41.47 for females and 45.53 for males (Table 1).

Table 1. Body appreciation means stratified by sex. n = 354.

	Sex	N	Means	Standard deviation
Body appreciation	Female	172	41.47	9.65
	Male	182	45.53	6.598

When applying Pearson's correlation with the objective of correlating the body appreciation variable with the sports profile (training, years of sports practice, hours of training, result of the last competition) of the Colombian adolescent athletes, an indirect relationship was obtained between the body appreciation variable and the result of the last competition, as well as with years of practice; for the former a value -0.115 and a p-value of .031 being significant and for the latter a direct relationship with a value of 0.124 and a p-value of .019 being statistically significant. No correlations were found between body appreciation and the categories hours of training per day, number of workouts per day or days of training per week (Table 2).

Table 2. Correlation of body appreciation with sport profile. n = 354.

		Age	Last Competition result	Training hours a day	Training times a day	Training days a week	Years of sport practice
Body appreciation	Pearson correlation	-0.103	-0.115*	-0.043	-0.093	0.101	0.124*
	Sig. (bilateral)	0.052	0.031	0.416	0.081	0.058	0.019

Note. \*. The correlation is significant at the .05 level (bilateral). \*\*. The correlation is significant at the .01 level (bilateral).

When comparing the body appreciation variable with certain characteristics of the athlete (sex, housing area, podium, type of last competition, sport sector, type of discipline), the comparison of means of the variables stratified by sex was performed, identifying equality of variances by means of the Levene test, yielding a p-value of .000. Therefore, when analysing the T-student test for the body appreciation variable, it yields a value of .000 with respect to not equal variances, concluding that the mean of the body appreciation variable is statistically significant. On the other hand, when comparing the body appreciation variable stratified by housing zone, there were no significant differences between each one of them comparing rural and urban housing, nor were there significant differences with podium, sport sector (conventional and Paralympic), type of sport (individual and team) (Table 3).

Table 3. Comparison of the variable body appreciation with sex, housing area, podium, type of last competition, sport sector and individual or team sport. n = 354.

	t	Sig. (bilateral)	Means differences	95% Confidence Interval for the difference	
				Lower	Upper
Sex	0.001	.001	-4.068	-5.788	-2.348
Housing area	0.718	.639	-0.539	-2.799	1.721
Podium	0.104	.093	-1.579	-3.421	0.263
Type of last competition	0.012	.077	2.776	-0.298	5.851
Sport sector	0.198	.065	3.174	-0.204	6.553
Individual or team sport	0.939	.672	-0.408	-2.303	1.486

To compare the body appreciation variable with the variables educational level, sector of study, socioeconomic stratum and means of transportation used by the Colombian adolescent athletes participating in this study, ANOVA, and the homogeneity test ( $p$ -value < .05) were performed with the body appreciation variable and the categories. Regarding this variable, no significant differences were found, yielding a value of .488 (Table 4).

Table 4. Results of the mean differences between the variables body appreciation and the variable type of institution. n = 354.

One-factor ANOVA		Sum of squares	Mean squared	Sig.
	Inter-groups	103.024	51.512	.488
Body appreciation	Intra-groups	25162.346	71.688	
	Total	25265.37		

## DISCUSSION

When correlating body appreciation with the sport profile, in which training days and hours, years of sport practice up to the time of participation in the study and the result of the last competition were analysed, a relationship was found only with the result of the last competition, The same was found with years of practice, but no correlations were found between body appreciation and the categories of hours and number of training sessions per day, nor days of training per week, as was found in the study by Budzisz and Sas-Nowosielski (2021) in which body appreciation was higher in athletes who trained five or fewer times per week.

On the other hand, when comparing body appreciation with sex, urban or rural area of residence, obtaining a place on the podium in their last competition, type of last competition, sport sector and type of discipline, in this research only a relationship with sex was found. In fact, the revised body appreciation in adolescents has shown differences between sexes in several studies. In some it has been large, being much higher in males than in females (Banasco et al., 2021; Jáuregui & Bolaños, 2011). In others, although not very wide, it has been differentiated being higher in men with marked factors such as age and types of studies (He et al., 2020). On the other hand, merely being a woman, having a high body mass index and not exercising have generated an increase in body dissatisfaction in women (Reyes, 2020), but BMI has been discussed in another way since it has been seen that this is not associated with body appreciation (Kennedy et al., 2020). Another factor related to this differentiation between sexes is the addiction to social networks and concern for body image because it has been seen to be noticeable and evident in the female sex (Budzisz & Sas-Nowosielski, 2021; Ripalda, 2022). In this regard, in this study a slight differentiation was found being higher in men, so it is not so far from the findings of the literature and one more factor was regarding comments

received by their environment, an aspect in which women perceived the severity of the comment significantly worse than men (Scott et al., 2022).

In our study, no significant differences were found with the area of residence, nor with having won or not a medal in the last competition, being a conventional or Paralympic sport, or practicing an individual or team discipline. According to the type of sport, Budzisz & Sas-Nowosielski (2021), found that body appreciation was higher in women, in those sports of indirect competition, i.e. in those sports in which the confrontation was not face to face but using means such as rowing, for men it was higher in water sports disciplines than in those who practiced the sport indoors and there was greater body appreciation in athletes of individual disciplines than in collective sports in women, but strikingly the opposite was true for men (Budzisz & Sas-Nowosielski, 2021).

In our study, no significant differences were found between body appreciation and the variables of educational level, sector of study, socioeconomic stratum and means of transportation, contrary to other findings with greater body appreciation in adolescents enrolled in an educational institution (Morales, 2017) highlighting in them a positive attitude towards challenges, active search for solutions to problems and support from others to solve problems. Greater body appreciation has also been found in students from public than private educational institutions (Tacca et al., 2017), although the opposite could be thought, since having greater economic accessibility would facilitate the search for resources and strategies to have a better body and thus increase their body appreciation.

Therefore, it is important to work on the development of a satisfactory body image in all people regardless of age, sex, race, and social status. Especially in adolescent athletes, considering that this can contribute to this population possessing a sense of confidence in sport and generating sporting performance with high achievements (Ricketts, 2023).

## CONCLUSIONS

In the Colombian adolescent athletes participating in this study, positive body esteem predominated, which was related to the result of the last competition and years of practice. On the contrary, socioeconomic stratum, housing area, study sector, educational level, and type of discipline did not show any influence.

There are different factors that can affect the perception of body image that a person may have. Among them are the comments that their peers, trainer or family may make about their body, impacting on the psychopathology of exercise and nutrition and generating mental health problems that affect their physical well-being. This type of research is useful for the early identification of alterations in the perception of body image in order to focus efforts on the design and implementation of promotion and prevention programs, especially in adolescents.

According to the research reviewed, body appreciation is a positive sign for athletes as it intrinsically contributes to personal value and a feeling of self-esteem, factors that the literature has shown to be positive for adolescents. It is also interesting to note that previous research shows that this body appreciation factor tends to be higher in males than in females.

These problems could be less or perhaps be solved if the person who wanted a certain physical appearance, sought the help of a professional and if these athletes had a follow-up and control from the nutritional and psychological field to avoid these mental alterations. What undoubtedly needs a general recognition from

each of the actors in the context of the athlete; family and coach, and in turn, the latter could benefit from the many tools that professionals from other areas could offer for the enrichment of the sporting and personal process of each of their athletes, this to contribute to the achievement of sporting achievements.

## AUTHOR CONTRIBUTIONS

I.C.R.P.: conceptualization, methodology, investigation, resources, formal analysis, writing—original draft preparation. I.C.R.P, I.P.P.: writing—review and editing. All authors have read and agreed to the final version of the manuscript.

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No potential conflict of interest were reported by the authors.

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