Factors of (dis)satisfaction with body self-image in adolescence

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ABSTRACT

In adolescence, young people have to adapt to almost radical transformations, being the (dis)satisfaction with body self-image a reality.

The aim of this research is to determine the relationship between physical condition and (dis)satisfaction with body self-image. To know how (in)satisfaction with body self-image relates to male versus female and analyse the association with academic achievement at a global level, according to gender and age. Participated 1517 adolescents, 701 males (46.18%), aged between 12 and 17 years.

The physical condition was assessed by Fitnessgram, the (dis)satisfaction with body self-image, using the Collins Silhouette Scale (1991), was adapted by Simões (2014), and the academic performance by the arithmetic average of the curriculum subjects.

There was a statistically significant relationship between (dis) satisfaction with body self-image and physical fitness level groups in the global sample and in males.

The associations between body image (dis)satisfaction and academic achievement, global, male, and female gender, are not significant ($p < 0.05$). Between age and (in)satisfaction with body self-image globally and in women, the correlations are negative, significant, and weak.

Keywords: Adolescence, Physical Condition, (Dis)satisfaction with Body Self-Image, Academic Achievement.

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INTRODUCTION

Adolescence is a period marked by physical and social changes that may be associated with negative body image (Sennin-Calderón, Rodriguez-Tental, & Perona-Garcelán, 2017). It constitutes a stage of our ontogenesis marked by psychological vulnerability, sometimes excessive concern with self-image, often marked by dissatisfaction.

According to Grogan (2017), many researchers have considered body image to be many different things. Body image appears with Collins (1981), assumed as a dynamic concept, for this author, the accuracy of body image depends on the way the individual processes adjust between reality and the rhythm of body change.

In turn, other authors conceive body image as a multidimensional idealization defined by the perceptions and attitudes (affective, cognitive, behavioural) that a given subject has of their body (Cash & Brown, 1989; Conti, 2008; Simões, 2014).

For Simões (2014), it is a dynamic, personal construction, a multidimensional construct, defined by the perceptions and attitudes (affective, cognitive, behavioural) that a given subject has about their body. (Dis)satisfaction with body image concerns the preference for certain bodily characteristics related to the size and shape of the body, different from the individual's perception of themselves (Wertheim & Paxton, 2011). There is an area in the body image process, regarding facial characteristics, skin appearance, musculature, fitness (physical condition) and strength, in which young adolescents most identify with their ideal.

In fact, perceptions of body image constitute a phenomenon that has two underlying aspects: cognitive and affective changes. The present study aims to determine the relation between physical condition and (dis)satisfaction with body self-image globally and in both genders; know if there are significant differences between (dis)satisfaction with body self-image between genders; analyse the association between (dis)satisfaction with body self-image and academic performance globally and according to gender. And determine the relationship between age and (dis)satisfaction with body self-image.

Often during adolescence, the body conveys dissatisfaction and negative feelings to young people. According to Grogan (2017), body image involves perceptions, thoughts, and *feelings* about the respective body. According to Tiggemann (2011) and Grogan (2017), there are cultural variations regarding body shape, increasingly linked to health standards, which includes healthy lifestyles, a fundamental aspect to implement among young people, idea corroborated by Mitchell, Petrie, Greenleaf and Martin (2012).

It is common for young teenagers to falter when faced with so much change in such a short space of time, and body image is logically at the heart of these changes. According to Cash (2011), in a panel of development of influences in the construction of the body image process, the following

can be made compatible: aspects of culture, socialization; interpersonal experiences; physical characteristics with the appropriate changes; personality factors; attitudes; cognitive or even self-regulation processes.

Excessive weight, proven by scientific evidence, is associated with health risks, constituting one of the major concerns of the WHO (2010), expressed in the present study through physical condition, in which Body Mass Index – (BMI); Fat Mass Index – (FMI) and Abdominal Perimeter – (AP), obtained from the *ratio* (Abdominal Perimeter/Height), constitute decisive variables, to place the participant in the healthy zone, the zone of some risk or the zone of high risk.

It is important to include young people, either boys or girls, in comfort zones with their physicality for aesthetics, self-esteem and feeling appreciated reasons. According to Fonseca (2009), teenagers become particularly vulnerable to the impact of social *feedback* on their appearance, leaving their self-esteem weakened. "*Portuguese adolescents defined as obese (with a body mass index – BMI – based on weight and height, self-reported, equal to or greater than P. 95 for age and gender), when compared with their non-obese peers, they more often reported being on a diet with the aim of losing weight (especially females) and they more often considered that they looked worse, were less healthy and even had difficulty on making friends", Fonseca, 2009, p* . 21.

Considering the nature of feminine *versus* masculine, since there are notable differences with regard to body shapes (dimensions), taking into account various factors (eg, anatomical, hormonal, ethnic, cultural) boys and girls present substantial differences, concept known as sexual dimorphism (Fragoso and Vieira, 2000). In historical terms, particularly since the 1950s, there has been a rebirth of body culture, that is: a rediscovery of the cult of the body, in which the feminine gained space. The School, the valorisation of Physical Education, School Sports and Federated Sports, *Health Clubs* have constituted a decisive foundation in the importance that the cult of the body has assumed among young people. It emerges in different contexts and countries, a concern that has been increasing and comes from the alarming indicators defended by the WHO (2010) and OECD (2017) *guidelines*, at the level of global health strategy and policy, as well as health policies from different countries, particularly in the West (eg. United States; United Kingdom; Scandinavian countries; Spain; Portugal, among others).

According to (Baskova, Holubckova, & Baska, 2017; Murnen, 2011), dissatisfaction with body image, which is generally associated with their weight, is more common in girls, compared to boys who do not have such a strong concern. In the opinion of Murnen (2011) and Crogan (2017), the ideal female body is strongly associated with thinness and the addition of breasts, as well as other meanings of sensuality. While men are also associated with elegance, most clearly with the visible muscular structure. For Rodriguez and Cruz (2008), dissatisfaction with body image increases significantly between the ages of 13 and 15, and from the age of 15 it remains constant. The

ectomorphic morphotype pattern predominates (Fragoso & Vieira, 2000), and anything that deviates from this pattern is stigmatized, resulting in dissatisfaction for young people, suffering, social exclusion, as well as less healthy behaviours and causing serious risks for the discriminated young people (Fonseca, 2009). And at the heart of this problem are teenagers, who, due to the need to create feelings of social inclusion, in their peer groups and environments, make them particularly exposed to unrealistic and distorted standards of body self-image. Idea corroborated by Aerts, Madeira and Zart (2010); Basková et al. (2017); Petroski, Pelegrini and Glaner (2009); Scheinder et al. (2012). They identified girls as being more concerned than boys with their body image.

Scheineder et al. (2012), carried out a study whose objective was to evaluate the extent of patterns and predictors of feelings of body dissatisfaction, experienced by German adolescents, females aged between 14 and 17 years. Using *AVATAR 3D software*, they asked young people to estimate their desired body image (individual ideal) and the body image they believed their parents and best friend considered an ideal image for young women and the individual ideal body shape (silhouette) described was significantly thinner. In this logic, Petroski, Pelegrini and Glaner (2009), observed that girls wanted to reduce their silhouette (50.5%), while boys wanted to increase it, 42%). Inadequate nutritional status and body adiposity increase the likelihood of dissatisfaction with body self-image. This study also highlights the social pressure on females to achieve thinness and for males to develop greater volume in order to have a greater athletic structure.

Some studies (eg, Abbot & Barber, 2011; Beling et al., 2012; Burgess, Crogan & Burwitz, 2006; Slater & Teiggmann, 2011) consider dissatisfaction with body image to be a strong reason that can lead girls to away from playing sports. Gomez-Baya, Mendonza, Matos and Tomico (2017), corroborate this idea, considering it important to implement psychological adjustments among adolescents, thus promoting the practice of sport and social acceptance.

Through a qualitative approach, Danis, Bahar, Isa and Adilin (2014), concluded that participants who knew they did not have their ideal weight also mentioned that they felt *stress*, that they sometimes made fun of their body, they were not satisfied with their body and had the intention of losing weight; they did not feel comfortable with their weight; felt dissatisfaction with their body and had negative *feelings* regarding the fact of being obese. However, some participants in this study also admitted that there are people who care about them and who make them feel happy.

Calzo et al. (2012), carried out a study that aimed to determine the association between body mass indexes (BMI), body dissatisfaction and concerns about weight and shape. They also wanted to know how these variables evolve from the end of second childhood, to the end of adolescence, in boys and girls. They observed that girls above the 50th percentile in BMI reported dissatisfaction with their body, compared to girls below the 50th percentile. On the other hand, boys who reported greater body dissatisfaction were above the 75th percentile in BMI (approaching overweight), or

below the 10th percentile (sign of underweight). Body dissatisfaction increased with age for both girls and boys, but gender-specific patterns for BMI effects remained constant. Male and female participants in the overweight/obese BMI range reported greater concern about weight, but among older adolescents (particularly girls), body weight became increasingly associated with greater concern about weight and shape.

A systematic review of methods used to measure dissatisfaction with body image in children and adolescents, carried out by Jiménez-Flores, Jiménez-Cruz and Bagardi-Gascón (2017), using the following databases: Pubmed*; Scielo and EBSCO Host*, in a study with a cross-sectional study design, on studies published between April 2010 and April 2015. They considered variables such as: age; gender; height and methods on the scale used to assess dissatisfaction with body image. Self-perception of body weight was also assessed. Sixteen studies were included in the inclusion and exclusion criteria, and included young people aged between 5 and 19 years. Studies of body image dissatisfaction with overweight or obesity ranged from 44% to 83% and studies whose body image dissatisfaction was due to low weight ranged from 1.7% to 37%. In some studies, dissatisfaction with body image was associated with age, which happened more frequently among girls. But dissatisfaction with body image is also present in some boys.

Body image and social media - it is unequivocal that the aesthetic concept of the body (beauty) has undergone significant changes over time. This process can also vary from society to society, according to norms, standards, and aesthetic values in force in a given sociocultural and historical context. According to Mora (2008), "*aesthetic body standards have been valued differently at certain times in history"*. Often in terms of the context of sociocultural factors, unrealistic images of beauty are fostered by social media (Clay et al., 2005). For example, at the end of the 19th century, women were admired for their "plump" shape, a sign of health and sensuality. On the other hand, the standards of the fifties were very different, slimmer figures were in fashion. Currently there is awareness of the importance of young people being invaded, "massacred, *almost in a relentless battle"* by different media, particularly with the explosion of social networks. New heroes are thus manufactured, personified in models, actors, or athletes, with an ectomesomorph morphotype, in which the main muscle groups are well toned, representing the imagination of each young person. Clay et al. (2005), draw attention to the fact that the girls' exposure to media images can negatively affect body image. Miles et al. (2018); Petroski et al. (2009); Rodriguez and Cruz (2008); Schneider et al. (2012), consider that girls, even with ideal weight, continue to feel obese or disproportionate, which leads to a distortion of body image.

There are some studies that attribute great significance to social media and peers in the formation of young people's body image (Craike et al. 2016; Dohnt & Tiggemann, 2006; Mils, Musto, Williams, & Tiggemann, 2018; Tiggemann, 2011 ; Tiggemann & Slater, 2013; Voelker, Reel

& Greenleaf, 2015), refer to the influence of the media society and peers in the formation of young people's body image. For Dohnt and Tiggemann (2006), this process begins very early, through television (musical programs, *video shows*, radical programs and magazines) are some of the examples pointed out by the authors and which help to explain the emergence of this social phenomenon and which, in their understanding, of these researchers, represents a negative influence on young girls from an early age, both in the construction of their body image and in the development of self-esteem. According to Rodriguez and Cruz (2008), the media have a great impact on the body image of young adolescents, as body dissatisfaction increases in Latin American girls, the level of influence by social structures increases (social communication and activities to enhance the body also increase).

Tiggemann and Slater (2013), found in adolescent girls, aged between 13 and 16, a significant increase in time spent on the *internet* and *Facebook*. Likewise (Mils et al., 2018; Murnen, 2011; Voelker et al., 2015), they consider that they are the means media and peers, who help to form beliefs about the perception of the ideal body. In fact, the internalization of this process is in accordance with what is socially prescribed by the ideal body and will help to explain the relationship between weight *status and body image (Mitchell et al., 2012).* In this sense, Craike et al. (2016) consider that health messages should include strategies that reduce dissatisfaction with body shape and increase body self-esteem, but do not focus on the ideal of a thin body (thinness).

According to Tallat, Fatima, Fiza and Adiya (2017), the lack of self-perception reduces self-efficacy and self-esteem, which disrupts academic achievement, and body image affects academic performance, as most young people are distressed about their self-image and it is those who reveal satisfaction with their self-image, who have the highest grades. However, this study took place in a different educational context, of a higher education.

According to Veas et al. (2015), body image (dis)satisfaction is present in boys, which supports the importance of including non-cognitive variables along with cognitive variables to predict an academic performance model. Regarding the analysis of articles that consider the association between (dis)satisfaction with body image and academic performance, there are very few existing references (very rare), which reinforces the importance of the present study, giving it the exploratory study nature.

METHODS

SAMPLE

The sample was obtained by convenience and consists of 1367 participants, aged between 12 and 17 years old, of which 734 (53.69%) were female participants. Regarding the overall sample, 849 are in the healthy zone, 260 in some risk zone and 259 in the high-risk zone. Influence of body

image (dis)satisfaction on academic performance, 1,493 adolescents participated in the study, 800 (53.58%) of whom were female. Regarding the association of the age variable with (dis)satisfaction with body image, the study included 1,517 participants.

The participants in this study do not have a mental, physical, sensory, or emotional *handicap*. They attend regular schools at the 3rd cycle level of schools in the Algarve.

INSTRUMENTS

Sociodemographic characterization was carried out, which contains information regarding the averages obtained in the various subjects and which makes it possible to obtain academic performance.

Assessment of (in)satisfaction with body image

Collins' silhouette method (1991) was used, validated for the Portuguese population by Simões (2014) - (Appendix II).

The images are presented separately, according to the participant's gender. They are asked to identify the silhouette they consider closest to their body image, as well as the number of the silhouette they consider most consistent with their desired body image.

Image 2 - Scale image of silhouettes, adapted by Simões (2014).

PHYSICAL CONDITION ASSESSMENT

Physical Condition is assessed using an instrument called *Fitnessgram*, which consists of a physical fitness program for health, aimed at the young population attending Portuguese schools at secondary level, 3rd cycles and secondary education.

Based on a set of physical fitness tests at the respective ages, according to Bai, Saint-Maurice, Welk, Allums-Fearstherton and Anderson (2015), motor performance was assessed at three possible levels: risk zone and need for to improve; zone of some risk and also needs to improve and within or above the healthy zone.

Taking motor performance as a reference, the table in Attachment IV presents values for boys and girls.

ACADEMIC PERFORMANCE

Academic performance was obtained through the arithmetic average of the subjects in the *curriculum.*

DATA TREATMENT AND ANALYSIS

Computer software, version 25.0 of *IBM's Windows environment, was used.*

Regarding sample characterization procedures, the mean and standard deviation were determined. Descriptive statistics were also used with regard to frequency analysis at a global level and with regard to age and gender.

We chose to apply a parametric test, the *One-Factor ANOVA test. Later, to find out where the differences were, the Post-Hoc test, Bonferroni test and DMS* were used. In order to verify the existence of significant differences between females and males, the *T Student test was used*.

At *determining the correlations between the variables (dis)satisfaction with body self-image, academic performance and age, the* Pearson *r* test was used. The effect size was also determined based on *Cohen's d* and η^2 coefficients, depending on the statistical test.

A significance level αof 0.05 was considered.

RESULTS

In the present study, we intend to analyse the relationship between physical condition and (dis)satisfaction with body self-image according to table 8.

Table 1 - Characterization of the sample at a global level – Physical condition/(dis)satisfaction with body image.

Physical condition	***N***	***M***	***DP***	***F***	***P***	η^2
Global Sample				4,570	0.011	0.007
Healthy zone	848	0.18	0.94			
Zone of some risk	259	0.27	0.99			
High-risk zone	260	0.38	0.98			
Male				3,296	0.038	0.010
Healthy zone	449	0.11	0.93			
Zone of some risk	85	0.31	0.88			
High-risk zone	98	0.34	0.98			
Women				1,615	0.220	0.004
Healthy zone	398	0.26	0.95			
Zone of some risk	174	0.26	1.05			
High-risk zone	162	0.42	0.99			
Note: * p <0.05; ** p <0.01; *** p <0.001						

For the global sample, using the One-Factor *ANOVA statistical technique*, a statistically significant value was obtained for the relationship between physical condition and (dis)satisfaction with body self-image. It was found that there are statistically significant differences ($p < 0.05$) between (dis)satisfaction with body image, in the different physical condition groups. According to the value of η^2, the effect size can be considered low.

Bonferroni and *DMS* multiple comparisons test were applied. The results point to statistically significant differences between the healthy zone and the high-risk zone (Average Diff = - 0.201; p = 0.010), with the value of the healthy zone being lower than that of the high-risk zone. For the remaining levels of physical condition, no statistically significant differences were found ($p > 0.05$) between the means of (dis)satisfaction with body image.

With regard to males, using the same analysis technique, a statistically significant value was obtained for the relationship between physical condition and (dis)satisfaction with body self-image. It was found that there are statistically significant differences, $p < 0.05$), between (dis)satisfaction with body self-image, in different physical condition groups. According to the value of η^2, the effect size can be considered low.

DMS multiple comparison test point to statistically significant differences between the healthy zone and the high-risk zone. (Average Diff = - 0.223; p = 0.032), with the value of the healthy zone being lower than that of the high-risk zone. For the remaining levels of physical condition, no statistically significant differences were found ($p > 0.05$) between the different groups, level of physical condition and the means of (dis)satisfaction with body self-image.

Regarding females, no statistically significant differences were found between the means of (dis)satisfaction with body image in the different physical condition groups ($p > 0.05$). According to the value of η^2, the effect size can be considered low.

Still regarding the statistical relation between the variables age and (dis)satisfaction with body self-image, using the *Pearson coefficient*, no significant correlations were found between the two variables, either in males (r = 0.006; p = 0.879) or females (r = - 0.035; p = 0.319).

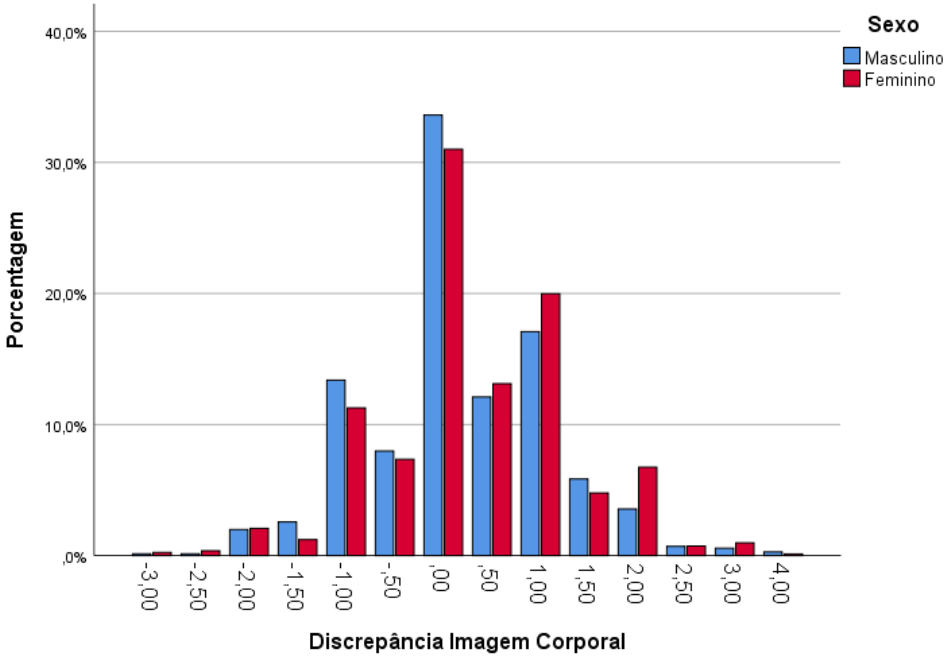
According to the values assumed by the participants, 53.7% of males and 51.30% of females are almost completely satisfied with their body self-image, with only (- 0.5 or 0.5) being apart. And 84.6% of male participants and 85.5% of female participants are one value (-1; + 1) apart regarding the degree of (dis)satisfaction with their body self-image. Graphic 1 illustrates the situation.

Table 2 - Degree of (Dis)satisfaction with Body Image, according to the gender of the participants.

Values Assumed	Discrepancy IC (male) - **N**	Percentage	Discrepancy IC (female) – **N**	Percentage
-3.00	1	0.10	two	0.20
-2.50	1	0.10	3	0.40
-2.00	14	2.00	17	2.10
-1.50	18	2.60	10	1.20
-1.00	94	13.40	92	11.30
-0.5	56	8.00	60	7.40
00	236	33.60	253	30.80
0.5	85	12.10	107	13.10
1.00	120	17.10	163	19.90
1.50	41	5.80	39	4.80
2.00	25	3.60	55	6.70
2.50	5	0.70	6	0.70
3.00	4	0.60	8	1.00
4.00	Two	0.30	1	0.10
Total	**702**		**816**	

In table 2, it can be seen that in males, as in females, a large percentage of participants are within the limits of (-1 to 1), corresponding to 84.20% in male participants and 82.50% in female participants.

Graphic 1 – Distribution of the (dis)satisfaction of body self-image on percentual terms, according to males *versus* females.



According to graphic 1, there is a balanced distribution in percentage terms between males and females regarding (dis)satisfaction with body self-image.

In order to determine whether body self-image (dis)satisfaction differs depending on gender, the *T Student test was used*, and the results indicate the existence of significant differences ($p < 0.05$) between the female and male means. (t = - 2.448; gl =1516; p = 0.014). Female participants have a higher average value than males, regarding the discrepancy with (dis)satisfaction with body self-image. According to *Cohen's d value*, the effect size can be considered insignificant.

(DIS)SATISFACTION WITH BODY SELF-IMAGE AND ACADEMIC PERFORMANCE

With regard to the association between body image (dis)satisfaction and academic performance, with a N of 1,493 participants, the statistical test called *Pearson* Coefficient was used, and no significant correlation was obtained ($r = 0.015$; $p = 0.575$) regarding the total number of participants.

At the male level, with 693 participants, the correlation obtained is not statistically significant ($r = 0.008$; $p = 0.833$). Regarding female participants, with 800 participants, the correlation obtained is also not significant ($r = 0.016$; $p = 0.646$).

(DIS)SATISFACTION WITH BODY SELF-IMAGE *VERSUS* AGE

In the overall sample, a significant negative and weak correlation was obtained ($r = - 0.099$; $p = 0.002$). In males ($r = 0.056$; $p = 0.277$), the correlation obtained is not statistically significant and in females ($r = - 0.140$; $p = 0.001$), it is statistically significant, negative and weak. In summary, *Pearson* 's linear correlation coefficients point to the existence of negative, weak, and significant correlations ($p < 0.01$) between (dis)satisfaction with body image and age, globally and female gender.

DISCUSSION

The present study that relates physical condition to (dis)satisfaction with body self-image is found in some studies (eg, Danis et al., 2014; Gomes-Baya et al., 2017; McCabe et al., 2001; Petroski et al., 2009), resonance in anthropometric variables such as weight, body mass index (BMI), fat mass index (FMI) or abdominal perimeter (BP) and are in line with the results of the present study, in which participants in the healthy zone bring themselves into higher levels of satisfaction in their body self-image.

Grogan (2017) considers that a reduction in (dis)satisfaction with body self-image and positive formation of body image, will have an impact on behavioural variables that involve the internalization of elegant as an ideal physical form, and, to promote a positive body image, the discrepancy between the ideal body and the desired body must be zero or almost zero. According to some studies (eg, Beling et al., 2009; Calzo et al., 2012; Craike et al., 2016; Fonseca, 2009; Schneider et al., 2012), reveal adolescents' concern about their body self-image, corroborating our study. In fact, there are several studies that argue that future school programs should increase weight control in adolescents (eg, Burgess et al. 2006; Craike et al., 2016; Danis et al., 2014; Jiménez-Flores et al. 2017).

In the present study, at a global level, participants who reveal greater satisfaction with their body image are located in the healthy zone in terms of physical condition and those who show

greater discrepancies in terms of (dis)satisfaction with body image are in the high-risk zone. A statistically significant relation was found (p = 0.05). Regarding males, a statistically significant relationship was also obtained between physical condition and (dis)satisfaction with body self-image. According to (eg, Basková et al., 2017; Beling et al., 2012; Gomez-Baia et al., 2017), boys are least concerned about their body image, but they are also those who are most keen on practising sports (Slater & Teiggmann, 2011). Corroborating these results, also in our study, it is boys who reveal a lower degree of (dis)satisfaction with their body self-image.

Overall, 490 of the participants (33%) are completely satisfied with their body image, not revealing any discrepancy *score*. However, a large percentage (67%) actually reveals dissatisfaction with their body self-image. According to table 9 and graph 1, the discrepancy values assumed by male and female participants are very identical, which contradicts some studies consulted (eg, Basková et al, 2017; Calzo et al., 2012; Ricciardelli & McCabe, 2011; Voelker et al, 2015).

According to Calzo et al. (2012), dissatisfaction with body image and concern about weight intensify during adolescence. For these authors, boys are generally more satisfied with their bodies compared to girls. For (Basková et al., 2017; Murnen, 2011; Schwartz & Brownell, 2004; Tigemann & Slater, 2013), body image is especially prevalent in adolescence, where the majority of girls experience dissatisfaction with body image and express the desire to be thin. Corroborating this idea, Markland & Ingledew (2007), opine that the difference with regard to gender in the effect of body mass and perceived discrepancy in body size and autonomous motivation to exercise, can be explained through different sociocultural expectations, which can help to understand this male/female balance, with regard to the discrepancy in (dis)satisfaction with body image in our study.

A statistically non-significant correlation was obtained between the variables (body image discrepancy and academic performance, with an effective value of (*r = 0.015). This result* is in line with the study by *Veas et al. (2015)*, in which adolescents, vulnerable to changes in body image, particularly girls, tend to develop discrepant values of (dis)satisfaction with body image. However, we are convinced that a periodic assessment accompanied by positive reinforcement strategies is justified, with the aim of reducing discrepancies, which makes this study even more pertinent, as well as carrying out more extensive studies at other schools in different regions of the country, as well as at other levels of education.

Regarding the relation (dis)satisfaction with body self-image and age, the fact that a statistically non-significant correlation is obtained in males, but significant in females, is plausible and is in line with some literature (eg Basková et al. 2017; Gomez-Baya et al. 2017; Murnen, 2011; Schwartz & Browell, 2004; Tigemann & Slater, 2013). Also, Jiménez-Flores et al. (2017) and Mils et al. (2018), consider that females feel more (dis)satisfaction with their body self-image.

In short, in the development of body image, the essential thing is to understand your own body as unique, different from others, as "I", which also corresponds to the apprehension of yourself as an "object" and also as a "subject". Therefore, it requires a careful look and continued research in different school, cultural and gender-based contexts.

According to Smolak and Cash (2011), future challenges in the approach to body image must take into account: a) investing in the approach to body image, as a multidimensional context; b) take into account the diversity of study contexts from which the samples come (eg, ethnicity, age, culture, social classes, sexuality); c) assessment tools must be more sensitive and in line with the objectives of the intervention.

In the present study, there was a "certain balance" with regard to the discrepancy values of (dis)satisfaction with body image between boys and girls. Instead, there are studies that consider this concern to be more evident in girls (eg Aerts et al., 2010; Baskova et al., 2017; Calzo et al., 2012; Jiménez-Flores et al., 2017; Schneider et al., 2012). In statistical terms, the impact of the effect size leaves us apprehensive and motivates us to continue studying this topic. And the fact that practically the references that analyse the relation between body self-image and academic performance are non-existent, which reinforces the relevance of the present study, as well as the continuity of this line of research.

CONCLUSIONS

The (dis)satisfaction with body self-image in individuals with a healthy physical condition is significantly lower than that of individuals at high risk, both globally and among females.

Regarding (dis)satisfaction with body self-image, male participants differ from female participants, with lower discrepancy values.

There is no association between (dis)satisfaction with body self-image and academic performance, at the level of the total sample and for both genders.

Age and (dis)satisfaction with body self-image are negatively associated, both globally and among females.

STATEMENTS

For this submission there is no funding to report. There is no Conflict of Interest. The procedures to get the Informed Consent were taken, namely the authorization was requested from official bodies: National Data Protection Institute; Regional Education Delegation; Directors of the Groups that allowed us access to the data. Authorizations from Parents and informed consent from students were also included. The Compliance with Ethical Standards statement in the Ethical Compliance Section should include whether the study was performed in accordance with the ethical

standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

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