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# Psicología Educativa

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# Effects of Teasing in Physical Education Classes, Self-efficacy, and Physical Activity on Adolescents' Self-esteem

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#### ABSTRACT

Objective: To investigate the differences between boys and girls in the present variables, and assess the possible associations between self-esteem and teasing in school physical education classes, self-efficacy, and physical activity among adolescents. *Method:* The sample included 944 adolescents aged 14 to 19 years (mean =16.52, *SD* = 1.12, 53.6% male), enrolled in public high schools in Florianópolis, Santa Catarina, Brazil. Information was collected on age, body mass index, physical activity level, self-efficacy, teasing experiences in physical education classes, and self-esteem (dependent variable). Self-esteem was assessed using the Rosenberg Self-esteem Scale. *Results:* Adolescents had a mean self-esteem score of 28.71 (out of 40), with boys having higher scores than girls (29.66 vs. 27.61, p < .001). In both sexes, adolescents who reported lower levels of teasing in physical education classes had higher self-esteem. Boys with high self-efficacy and higher levels of physical activity had higher self-esteem scores. *Conclusion:* Experiencing teasing in school physical education classes was a predictor of self-esteem in adolescents of both sexes, and self-efficacy and physical activity were predictors of self-esteem in boys.

# El efecto del hostigamiento en las clases de educación física, la autoeficacia y la actividad física en la autoestima de los adolescentes

# RESUMEN

Objetivo: Investigar las diferencias entre chicos y chicas en las variables de estudio, así como averiguar la posible asociación entre autoestima y el hostigamiento en las clases de educación física, autoeficacia y actividad física en adolescentes.  $M\acute{e}todo$ : Se contó con una muestra de 944 de entre 14 y 19 años (media = 16.52, DT = 1.12, el 53.6% hombres) que estudiaban en centros escolares de Florianópolis, Santa Catarina, Brasil. Se recogió información sobre edad, índice de masa corporal, nivel de actividad física, autoeficacia, hostigamiento en las clases de educación física y autoestima (variable dependiente). La autoestima se midió mediante la Escala de Autoestima de Rosenberg. Resultados: La autoestima media de los adolescentes era 28.71 (de un máximo de 40), siendo más elevada la de los chicos que la de las chicas (29.66 vs. 27.61, p < .001). En ambos sexos la autoestima de los adolescentes que declaraban menos hostigamiento en educación física era superior. Los chicos que tenían una mayor autoeficacia y mayor actividad física tenían puntuaciones más elevadas en autoestima. Conclusión: Experimentar hostigamiento en las clases de educación física predecía la autoestima de los adolescentes de ambos sexos; la autoeficacia y la actividad física predecían la autoestima en los chicos.

Self-esteem can be defined as a set of feelings and thoughts that an individual has about his or her value, competence, confidence, adequacy, and ability to face challenges (Rosenberg, 1965), being thus a subjective assessment related to self-acceptance and self-respect (Doré, 2017). Among all the factors that can affect adolescents' self-esteem, there are three central dimensions in their lives: pubertal development and school and negative experiences with peers (Alsaker & Kroger, 2006). During the process of human growth and

development known as puberty, boys and girls undergo a series of hormonal, physical, and psychosocial changes (Alsaker & Flammer, 2006). Adolescents are more aware of these physical changes during this period, particularly in relation to body weight and shape, which can lead to body satisfaction or dissatisfaction (O'Dea, 2012).

Physical changes and their interactions with other aspects of adolescents' lives can have different effects, which, added to hormonal factors, can increase negative and varied emotions, characteristic

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of adolescence (Shroff & Ricciardelli, 2012). Thus, these physical changes may also reflect on adolescents' self-esteem, since self-esteem and body image are strongly associated with and influence each other. Self-esteem and body image are also important issues for boys and girls who live the experience in different ways: girls are more at risk of low self-esteem and body dissatisfaction due to increased body fat, which puts them far away from the sociocultural ideal of thinness for women, while boys show increased muscularity, putting them closer to the muscular ideal for a male's body, which improves their body satisfaction (O'Dea, 2012).

In the context of school and negative experience with peers, a factor that must be considered when assessing self-esteem is the occurrence of teasing, which is common in physical education classes. Teasing is defined as verbal or non-verbal, intentional, humorous and ambiguous acts that are intended to have an effect on the target, possibly leading to a negative outcome, such as humiliation and harassment (Keltner et al., 2001). Experiences of teasing during sports activities were positively related to body image concerns in adolescents, and the higher the level of teasing, the greater the level of body image concerns (Slater & Tiggemann, 2011), which possibly reflects on self-esteem. A study conducted with adolescents in São José, Santa Catarina State, Brazil found that 72.9% had been teased during physical education classes, and those who had experienced teasing had higher levels of body dissatisfaction than those who had not (Gonzaga et al., 2021).

Differences between boys and girls can be noticed, considering that girls tend to receive more teasing than boys during physical activity (Slater & Tiggemann, 2011), and that girls who receive teasing show greater body dissatisfaction compared to girls who are not teased (Gonzaga et al. al., 2021). When confronted with teasing on a day-to-day basis, adolescents may develop an erroneous view of their body (Pollina-Pocallet et al., 2021), having higher risks for eating disorders symptoms (Leal et al., 2021), extreme weight control behaviors (Da Silva et al., 2018), depressive symptoms (Brunet et al., 2019), and suicidal thoughts associated with dissatisfaction with being overweight or thin (Claumann et al., 2018). This situation is further aggravated by media influences (Barajas-Iglesias et al., 2018) and peer bullying (Andreolli & Triches, 2019), two of the factors that most interfere with adolescents' self-esteem.

Physical activity, in addition to providing benefits in physical fitness, cardiometabolic and bone health, cognition, mental health and reduction of body adiposity (Okely et al., 2021), can also influence self-esteem in adolescents. Evidence points to a positive relationship between moderate-to-vigorous physical activity and self-esteem in adolescents (Fernandes, 2018). While adolescent participation in physical activity was associated with greater self-esteem and physical self-esteem in both sexes, less frequent participation was related to low self-esteem and body dissatisfaction, especially in girls (O'Dea, 2012). This relationship can be explained by the fact that the engagement in physical activity during adolescence can be effective in protecting from body image concerns and enhancing body satisfaction (Gualdi-Russo et al., 2022).

Self-efficacy, defined as the belief that a person holds about their ability to organize and perform actions to achieve certain goals (Bandura, 1977), has been commonly analyzed together with self-esteem (Chang et al., 2018; Kołoło et al., 2012; Marcionetti & Rossier, 2016), demonstrating a strong correlation with this outcome (Machado et al., 2020; Nunes & Faro, 2021). The association between self-efficacy and self-esteem is an important factor to be investigated, given that higher self-efficacy is linked to a lower frequency of weight-related teasing (Ievers-Landis et al., 2019), mitigates the effects of adverse experiences on physical and mental health-related quality of life (Cohrdes & Mauz, 2020), favors prosocial behavior (Su et al., 2016), improves academic performance (Caprara et al., 2011), provides opportunities for physical activity, and reduces sedentary behavior (de Souza et al., 2013; Szczuka et al., 2021). Furthermore,

self-efficacy contributes to reducing the impacts of body dissatisfaction on eating disorder symptoms (Chen et al., 2021) and is strongly associated with quality of life in adolescents, attenuating the effects of negative psychosocial factors, such as stress (Mikkelsen et al., 2020).

It is believed that research in this field may help identify how adolescents feel about themselves and what factors impact their self-esteem. This study aimed to investigate the differences between boys and girls in the present variables, and assess the possible associations between self-esteem and teasing in school physical education classes, self-efficacy, and physical activity among adolescents.

#### Method

## **Study Design**

This cross-sectional study is part of a larger research project entitled *Physical activity level, physical fitness, and health-related social behavior in adolescents: A study of secular trends.* The project was approved by the Human Research Ethics Committee at Santa Catarina State University (protocol no. 2,172,699).

### **Population and Sample**

The target population comprised adolescents aged 14 to 19 years enrolled in state high schools in Florianópolis, Santa Catarina, Brazil. For sample size calculation, we adopted a confidence level of 1.96, tolerable error of 4%, and prevalence of 50% (Luiz & Magnanini, 2000). The sample was increased by 10% to account for potential losses during the collection process, either due to inadequate completion of the questionnaire or participant withdrawal. Considering these parameters, the minimum sample size required was 624 students.

The school with the highest number of students enrolled in high school in each of the five regions of the city was selected for participation, and the sample number per region was proportional to the number of students enrolled in each collection region. At the downtown, the selected school had 2,160 students out of 3,455 students enrolled in a total of 5 schools. On the mainland, the selected school had 879 students out of 1,202 students enrolled in a total of 3 schools. In the north, the selected school had 1,662 students out of 2,575 students enrolled in a total of 4 schools. In the south, the selected school had 973 students out of 2,227 students enrolled in a total of 7 schools. In the east, the selected school had 348 students out of 733 students enrolled in a total of 3 schools.

The sample size included in this study was 944 adolescents, proportionally distributed among five schools, everyone in one region of the city, according to the Municipal Secretary of Health: downtown (n = 304), mainland (n = 106), north (n = 234), south (n = 230) and east (n = 70). All adolescents aged 14 to 19 years who were present at the time of application of the questionnaire and participated in school physical education classes were considered eligible. The final sample comprised only those who returned signed informed consent and assent forms.

# **Dependent Variable**

Self-esteem was measured using a version of the Rosenberg's (1965) Self-esteem Scale validated for Brazilian adolescents (Cronbach's  $\alpha$  = .63, ICC = .70) (Avanci et al., 2007). In the current sample, Cronbach's  $\alpha$  for the Rosenberg Self-esteem Scale was .86. The scale consists of 10 items expressing positive (n = 6) and negative (n = 4) feelings about the self. Items are rated on a 4-point Likert scale ranging from *strongly disagree* to *strongly agree*. Thus,

each item score ranges from 1 to 4, and the total score ranges from 10 to 40. Higher scores indicate higher self-esteem.

### **Independent Variables**

The questionnaire contained questions on sex (dichotomized as male and female), age (full years), and economic status. Data on economic status were classified according to criteria from the Brazilian Association of Research Companies (Associação Brasileira de Empresas de Pesquisas [ABEP, 2016]). Adolescents were categorized into high economic level (A + B1 + B2) and medium/low economic level (C1 + C2 + D + E). This grouping was used because of the low frequency of individuals in classes C2, D, and E.

Height and body weight were measured using a portable stadiometer (Sanny®, 0.1 cm resolution) and a digital scale (Tanita®, 100 g resolution), respectively (Canadian Society for Exercise Physiology [CSEP, 2004]). The body mass index (BMI) was calculated and classified according to weight status into underweight, normal weight, overweight, and obesity (Cole et al., 2000; Cole et al., 2007). Underweight (n = 143) and normal weight individuals were grouped together, as were obese (n = 30) and overweight individuals.

The International Physical Activity Questionnaire - Short Form (IPAQ-SF; Matsudo et al., 2001), validated for Brazilian adolescents (Guedes et al., 2005), was used to estimate physical activity level. For this, students reported the frequency and weekly duration of moderate and vigorous intensity physical activity. The daily volume of physical activity was calculated.

Self-efficacy for physical activity was assessed using a scale developed and validated for Brazilian adolescents (Cronbach's  $\alpha$  = .81, ICC = .78) (de Farias et al., 2011). In the current sample, Cronbach's  $\alpha$  for the scale used to asses self-efficacy for physical activity was .79. The scale contains 10 items, and responses are given on a four-point Likert scale ranging from *strongly disagree* to *strongly agree*. Total scores range from 10 to 40, with higher scores indicating higher perception of self-efficacy.

Teasing during physical education classes was assessed using a questionnaire (Slater & Tiggemann, 2011) translated and adapted for Brazilian adolescents (Dias et al., 2018). In the current sample, Cronbach's  $\alpha$  for the questionnaire used to assess teasing during physical education classes was .72. The questionnaire contains four questions assessing whether the subject has experienced teasing: "Have you felt that people are staring at you because of how you look?", "Have people made fun of you/laughed at you because of how you look?", "Have people made fun of you/laughed at you for being uncoordinated?", and "Have people called you names that referred to your size or weight?". Participants were instructed to answer questions referring to any period of time in the context of physical education classes at school. Questions are rated on a five-point Likert scale ranging from never to always. The total score is calculated as the sum of item scores, ranging from 4 to 20. Higher scores represent higher levels of teasing.

Table 1. General Characteristics for Total Sample and Stratified by Gender

Variable		Total	Girls	Boys	n value	
		$\overline{\mathbf{x}}$ (SD)	$\overline{\mathbf{x}}\left(SD\right)$	$\bar{\mathbf{x}}\left(SD\right)$	<i>p</i> -value	
Age (years)		16.52 (1.12)	16.43 (1.12)	16.60 (1.11)	.009	
BMI (kg/m <sup>2</sup>	)	21.29 (3.72)	21.17 (3.78)	21.21 (3.67)	.747	
Physical act day)	ivity (min/	69.09 (94.60)	) 50.87 (79.88)	84.93 (103.23)	<.001	
Self-efficacy	y (score)	25.44 (4.93)	25.11 (4.45)	25.73 (5.30)	.187	
Teasing (sco	ore)	7.60 (3.33)	8.21 (3.64)	7.06 (2.94)	< .001	
Self-esteem	(score)	28.71 (5.31)	27.61 (5.64)	29.66 (4.81)	< .001	

Note  $\bar{x}$  = mean; SD = standard deviation; n = absolute frequency; (%) = relative frequency; BMI = body mass index; min/day = minutes/day.

#### **Data Collection Procedure**

Before the data collection to start, the researchers contacted the Education Management of Florianópolis – SC to obtain authorization to conduct the research in the selected schools. After authorization, the researchers went to the schools to present the project to the directors and coordinators and, after obtaining authorization from them, selected the participating classes by lot. All students were invited to participate, and the terms of informed consent (for underage students) and assent (to be signed by the student) were given. Data collection was conducted during the class period, in the morning or afternoon, with the authorization and presence of the teachers responsible for the classes during the collection period, with the students who delivered the signed terms. The procedure for drawing the classes was repeated until the minimum sample number was reached, and the collection took place between August and December 2017, in the months of March, April, and May 2018.

### **Statistical Analysis**

Descriptive statistics were used to characterize the sample (mean, standard deviation, and frequency distribution). The normality of data distribution was tested using the Kolmogorov-Smirnov test. The Mann-Whitney *U*-test was used to assess differences between sex. Multiple linear regression (stepwise method) was used to identify associations of independent variables with self-esteem. A 5% significance level was adopted. Analyses were performed using IBM SPSS Statistics version 20.0.

**Table 2.** Associations between Self-esteem, Teasing, Self-efficacy, and Physical Activity in Adolescents

	B ± SE	β
	Girls <sup>1</sup>	
Model 1		
Constant	31.578 ± 0.633	
Teasing	-0.484 ± 0.071	312*
	Boys <sup>2</sup>	
Model 1		
Constant	31.881 ± 0.550	
Teasing	-0.313 ± 0.072	190*
Model 2		
Constant	27.738 ± 1.128	
Teasing	-0.324 ± 0.071	197*
Self-efficacy	0.164 ± 0.039	.181*
Model 3		
Constant	27.558 ± 1.117	
Teasing	-0.315 ± 0.070	192*
Self-efficacy	0.145 ± 0.039	.160*
Physical activity	0.007 ± 0.002	.150**

*Note.*  ${}^{1}R^{2}$  = .095 to the model 1;  ${}^{2}R^{2}$  = .034 to the model 1;  ${}^{2}R^{2}$  = .065 to the model 2;  ${}^{2}R^{2}$  = .086 to the model 3.

#### Results

Adolescents who failed to answer at least one item were not considered in data analysis. Thus, the final sample consisted of 944 adolescents (53.6% male) with a mean age of 16.52 (SD = 1.12) years. Sex differences were observed in age, physical activity, teasing level, and self-esteem. Boys had higher values for the variables age, physical activity, and self-esteem, while girls had higher levels of teasing. There was no gender differences in BMI and self-efficacy variables. Mean BMI values showed that the adolescents in the sample were eutrophic. Regarding physical activity, boys had an average of daily

<sup>\*</sup>p < .001, \*\*p < .05.

physical activity according to the recommendations for their age group, while girls had values below those recommended. The adolescents in the sample presented moderate values in relation to self-efficacy, teasing, and self-esteem variables (Table 1).

The results of multiple linear regression demonstrate that in girls only teasing in physical education classes was associated with self-esteem (see Table 2). This association was negative, revealing that the lower the level of teasing in physical education classes at school, the higher the level of self-esteem. Moreover, teasing explained 9.5% of the outcome. In boys, teasing was also negatively associated with the outcome, that is, the lesser the teasing in physical education, the greater the perception of self-esteem. In addition, self-efficacy and physical activity were positively associated with self-esteem, demonstrating that the greater the self-efficacy and the practice of physical activity, the higher the levels of self-esteem. Model 1, composed only of teasing, explained 3.4% of the outcome, while by inserting the self-efficacy variable, model 2 explained 6.5% of the outcome. Model 3, composed of all independent variables, explained 8.6% of the outcome.

#### Discussion

Differences between boys and girls were found in physical activity, self-esteem, and teasing. Boys practiced physical activity within the levels recommended by the World Health Organization for their age (Okely et al., 2021), while girls did not reach these recommendations, a result supported by the literature. According to a study that analyzed 298 populations, there is a higher prevalence of physical inactivity in girls than in boys (Guthold et al., 2020).

Regarding self-esteem, previous studies showed similar results, indicating that boys have better self-esteem compared to girls (Pazzaglia et al., 2020; Petrovics et al., 2021). It is understood that body changes that occur at puberty make boys closer to the ideal of muscularity for males, which increases their body satisfaction and self-esteem, while girls are further away from the ideal of thinness for females, due to the increase in the amount of body fat, which decreases their body satisfaction and self-esteem (O'Dea, 2012).

Such differences in levels of physical activity and self-esteem can also be explained by teasing: girls, when receiving more teasing during physical activity, may choose to move away from this practice, to avoid receiving them, in addition to having their self-esteem affected due to stares and negative comments about their bodies or coordination when performing a movement. With regard to girls receiving more teasing, the result of the present study agrees with Slater & Tiggemann (2011), who report that boys are teased by samesex peers, while girls report being teased by both girls and boys, which consequently increases the amount of teasing they receive.

Not being teased in physical education classes contributes positively to the perception of self-esteem in both sexes. Boys with higher self-efficacy and satisfactory levels of physical activity have a better perception of self-esteem. Teasing in physical education classes was the predictor that best explained self-esteem in both boys and girls. These findings indicate that the lower the frequency of teasing, the better their self-esteem. As pointed out by Alsaker & Kroger (2007), pubertal development, school, and negative experience with peers are dimensions that affect adolescents' selfesteem. Therefore, when they receive teasing in physical education classes at school, that is, experiencing a negative experience with peers in the school context, adolescents can suffer a negative impact on their self-esteem. Furthermore, it is important to emphasize that teasing generates body image concerns (Slater & Tiggemann, 2011) and body dissatisfaction (Gonzaga et al., 2021), and body image and self-esteem are related (O'Dea, 2012).

Adolescents who suffer insults, teasing, and bullying tend to have low self-esteem, are more dissatisfied with their body, and desire changes in their body shape (from being overweight or thin), factors that may cause depressive symptoms and feelings of guilt in relation to the body (Andreolli & Triches, 2019; Brunet et al., 2019). These adolescents are also more likely to have suicidal thoughts (Claumann et al., 2018). It is important to point out that the association between teasing and self-esteem negatively affects not only victimized individuals but also other individuals in the environment in which teasing occurs; such a situation may induce a hostile social climate, and peers may worry about being potential future targets (Låftman & Modin, 2017). Thus, it is highly relevant to control bullying and teasing within the school environment, where individuals are prepared for adult life. Adolescents who are accepted and supported by peers have higher self-esteem and engage more frequently in school activities (Antonopoulou et al., 2019).

Another key factor is family environment in early childhood, as it influences self-esteem development in the long term (Orth, 2018). We highlight the importance of social support from family and friends, given that this seems to be a mitigating factor for body dissatisfaction associated with teasing during physical activity (Gonzaga et al., 2021). With such support, adolescents may feel more confident and have better self-acceptance.

In boys, the association between physical activity and self-esteem revealed that those who practice the recommended daily amount of physical activity have a better perception of self-esteem. These results corroborate those of Guddal et al. (2019), who identified that physically active adolescents who engage in team sports have higher self-esteem. A possible explanation for this relationship is that the aesthetic changes promoted by physical exercise contribute to body satisfaction, and concern about body image is negatively associated with self-esteem (Jankauskiene & Baceviciene, 2019), body weight evaluation, disordered eating, nutrition habits, self-esteem, and physical activity (PA.

The literature shows that adolescents with insufficient levels of physical activity or high sedentary behavior are more likely to have fewer friends and be victims of bullying (García-Hermoso et al., 2020; Vancampfort et al., 2019). By contrast, adolescents who receive support from parents and peers are more likely to perform physical activity at sufficient levels (Khan et al., 2020).

The relationship between physical activity and self-esteem can also be explained by the fact that adolescents with low self-confidence to engage in physical activities for fear of being bullied or teased by peers tend to prefer sedentary activities. By avoiding physical activity, adolescents do not reach the recommended levels, generating a problem, because insufficient levels of physical activity affect not only physical health but also the psychological, social, and cognitive health of adolescents (Piercy et al., 2018).

Here, boys with high self-efficacy had a better perception of self-esteem. Some, albeit few, studies analyzed self-esteem and self-efficacy, focusing particularly on mental health promotion interventions in adolescents (Fenwick-Smith et al., 2018; Jafarigiv & Peyman, 2022; Pannebakker et al., 2019; Paricio et al., 2020). Such research revealed improvements in self-efficacy alone (Fenwick-Smith et al., 2018; Pannebakker et al., 2019) or in self-esteem and self-efficacy simultaneously (Jafarigiv & Peyman, 2022; Paricio et al., 2020). Jafarigiv & Peyman (2022) highlighted that development and improvement of young people's communication skills allow for improvements in self-esteem and self-efficacy, given that individuals may feel better prepared to face daily situations.

Self-efficacy stems from beliefs that originate from four main sources: the experience of mastering tasks and activities, vicarious experience of observing other people performing certain tasks, social persuasion (which may be positive or negative and involve exposure to verbal judgments), and somatic and emotional states (e.g., anxiety, stress, excitement, and mood) (Bandura et al., 2008). The results of the current study reveal the need for adolescents with low self-efficacy to receive external reinforcement about their

skills and attitudes so that they may feel confident in performing activities. Such behaviors stimulate self-efficacy and favor positive self-concept and, consequently, help improve self-esteem in the long term (Bandura et al., 2008).

Regarding physical activity and self-efficacy not being associated with self-esteem in girls, it is assumed tha teasing can have a greater impact on girls' self-esteem in relation to other variables, given that it leads to body dissatisfaction, and girls experience greater body dissatisfaction than boys (Gonzaga et al., 2021), while boys have more positive attitudes in relation to their bodies (Petrovics et al., 2021). In this context, it is important to highlight that girls probably face greater pressure to conform to appearance ideals, linking these cultural ideals to their self-definitions (Smolak, 2012). Still, as pointed out by Petrovics et al. (2021), a positive body image was associated with greater self-esteem, therefore, a mediating role of body image between teasing and self-esteem is perceived.

One of the limitations of this study was the fact that we did not establish a time period for students to recall and report the occurrence of teasing during physical activity classes. Thus, some variables might have varied according to the collection period. It is suggested that future research using the same questionnaire should add this information to the statement. Another limitation is the non-investigation of body image, which is affected by teasing and reflects on self-esteem. Therefore, future studies involving these variables should include data on body image. Also, although in the sample of the present study the scale used to assess self-esteem showed good internal consistency, in its validated version (Avanci et al., 2007) it showed a Cronbach's alpha value below the commonly acceptable levels. Thus, the results should be interpreted with caution due to the reliability of the scale, though the authors of the validation study point out that adolescence is a period when the vision and selfassessment can oscillate considerably, adding to the fact of the reduced number of items in the scale, which can also affect this value. Furthermore, as previously mentioned, self-esteem can be influenced by the social context in which individuals are inserted and by the perception of quality of life; as such, different results may be obtained depending on the study area. It is recommended to carry out follow-up studies to assess variations in self-esteem according to life habits and teasing, allowing determination of cause-effect relationships. This study collected data from adolescents from a region with very specific cultural contexts. Therefore, studies in other regions may provide different results, contributing to a better understanding of the relationships between the variables investigated here. Despite the limitations, the present study comprised a representative sample of school adolescents, allowing determination of associations of teasing in physical education classes, self-efficacy, and physical activity with self-esteem. Our results contribute to the existing literature, as there are few studies that address teasing. Specifically, in relation to teasing during physical education classes at school, its study is necessary, given the role that the school and negative experiences with peers play in the self-esteem of adolescents. Also, when analyzing the variables associated with self-esteem, it was possible to perceive gender differences, since most of the studies do not stratify the samples. Self-esteem is an important factor for the well-being of adolescents, therefore, obtaining information about the variables associated with it is relevant to think about strategies aimed at this population. It should be noted that, in the school environment, teachers, classmates, and other individuals play essential roles in the emotional development of adolescents and should, therefore, provide good examples, support, and help to teased individuals, thereby enhancing their well-being and psychological health.

#### Conclusion

Adolescents of both sexes who are less subjected to teasing during physical education classes, physically active boys, and those with higher self-efficacy have a better perception of self-esteem. Due to the importance of self-esteem for the well-being of adolescents, and the association between teasing during physical education classes at school and self-esteem in both sexes, it is suggested that schools and physical education teachers promote interventions to repress and avoid these behaviors. Schools can promote lectures on the subject, making students more aware of the negative repercussions they can generate on their peers when engaging in teasing. Physical education teachers, when witnessing teasing during their classes, must dialogue with their students so that they do not occur, making physical education classes enjoyable for all students.

### **Conflict of Interest**

The authors of this article declare no conflict of interest.

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#### References

- Alsaker, F. D., & Flammer, A. (2006). Pubertal maturation. In S. Jackson & L. Goossens (Eds.), Handbook of adolescent development (pp. 30-50). Psychology Press.
- Alsaker, F. D., & Kroger, J. (2006). Self-concept, self-esteem and identity. In S. Jackson & L. Goossens (Eds.), Handbook of adolescent development (pp. 90-113). Psychology Press.
- Andreolli, A. S., & Triches, R. M. (2019). Insatisfação corporal, bullying e fatores associados em adolescentes. *Ciência & Saúde, 12*(3), 33077. https://doi.org/10.15448/1983-652x.2019.3.33077
- Antonopoulou, K., Chaidemenou, A., & Kouvava, S. (2019). Peer acceptance and friendships among primary school pupils: Associations with loneliness, self-esteem and school engagement. *Educational Psychology in Practice*, 35(3), 339-351. https://doi.org/10.1080/02667363.2019.1604324
- Associação Brasileira de Empresas de Pesquisas (ABEP). (2016). Critério Brasil 2015 e alterações na aplicação do Critério Brasil 2016. Associação Brasileira de Empresas de Pesquisa, 1-6. www.abep.org/criterio-brasil
- Avanci, J. Q., Assis, S. G., Santos, N. C. dos, & Oliveira, R. V. C. (2007). Adaptação tanscultural de escala de auto-estima para adolescentes. *Psicologia: Reflexão e Crítica*, 20(3), 397-405. https://doi.org/10.1590/s0102-79722007000300007
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215. https://doi.org/10.1037//0033-295x.84.2.191
- Bandura, A., Azzi, R. G., & Polydoro, S. (2008). *Teoria social cognitiva: conceitos básicos*. Artmed.
- Barajas-Iglesias, B., Jáuregui-Lobera, I., Laporta-Herrero, I., & Santed-Germán, M. Á. (2018). The influence of the aesthetic body shape model on adolescents with eating disorders. *Nutricion Hospitalaria*, 35(5), 1131-1137. https://doi.org/10.20960/nh.1826
- Brunet, J., Pila, E., Solomon-Krakus, S., Sabiston, C. M., & O'Loughlin, J. (2019). Self-esteem moderates the associations between body-related self-conscious emotions and depressive symptoms. *Journal of Health Psychology*, 24(6), 833-843. https://doi.org/10.1177/1359105316683786
- Canadian Society for Exercise Physiology. (2004). The Canadian Physical Activity, Fitness & Lifestyle Appraisal: CSEP's plan for healthy living (3rd ed.). Canadian Society for Exercise Physiology.
- Caprara, G. V., Vecchione, M., Alessandri, G., Gerbino, M., & Barbaranelli, C. (2011). The contribution of personality traits and self-efficacy beliefs to academic achievement: A longitudinal study. *British Journal of Educational Psychology*, 81(1), 78-96. https://doi.org/10.1348/2044-8279.002004
- Chang, C. W., Yuan, R., & Chen, J. K. (2018). Social support and depression among Chinese adolescents: The mediating roles of self-esteem and self-efficacy. *Children and Youth Services Review, 88*(C), 128-134. https://doi.org/10.1016/j.childyouth.2018.03.001
- Chen, G., He, J., Zhang, B., & Fan, X. (2021). Revisiting the relationship between body dissatisfaction and eating disorder symptoms in Chinese adolescents: The mediating roles of regulatory emotional self-efficacy and depression symptoms. *Eating and Weight Disorders*, 26(1), 239-247. https://doi.org/10.1007/s40519-020-00848-0

- Claumann, G. S., Pinto, A. de A., Silva, D. A. S., & Pelegrini, A. (2018). Prevalence of suicidal thoughts and behaviors and its association with body dissatisfaction in adolescents. *Jornal Brasileiro de Psiquiatria*, 67(1), 3-9. https://doi.org/10.1590/0047-2085000000177
- Cohrdes, C., & Mauz, E. (2020). Self-efficacy and emotional stability buffer negative effects of adverse childhood experiences on young adult health-related quality of life. *Journal of Adolescent Health*, *67*(1), 93-100. https://doi.org/10.1016/j.jadohealth.2020.01.005
- Cole, T. J., Bellizzi, M. C., Flegal, K. M., & Dietz, W. H. (2000). Establishing a standard definition for child overweight and obesity worldwide: International survey. *British Medical Journal*, 320(7244), 1240-1243. https://doi.org/10.1136/bmi.320.7244.1240
- Cole, T. J., Flegal, K. M., Nicholls, D., & Jackson, A. A. (2007). Body mass index cut offs to define thinness in children and adolescents: International survey. *British Medical Journal*, 335(7612), 194-197. https://doi.org/10.1136/bmi.39238.399444.55
- Da Silva, S. U., Barufaldi, L. A., Andrade, S. S. C. D. A., Santos, M. A. S., & Claro, R. M. (2018). Nutritional status, body image, and their association with extreme weight control behaviors among Brazilian adolescents, National Adolescent Student Health Survey 2015. Revista Brasileira de Epidemiologia, 21(Suppl 1), 1-13. https://doi.org/10.1590/1980-549720180011.supl.1
- de Farias, J. C., Lopes, A. da S., Reis, R. S., do Nascimento, J. V., Borgatto, A. F., & Hallal, P. C. (2011). Development and validation of a questionnaire measuring factors associated with physical activity in adolescents. Revista Brasileira de Saude Materno Infantil, 11(3), 301-312. https://doi.org/10.1590/S1519-38292011000300011
- de Souza, C. A., Rech, C. R., Sarabia, T. T., Añez, C. R. R., & Reis, R. S. (2013). Self-efficacy and physical activity in adolescents in Curitiba, Paraná State, Brazil. *Cadernos de Saude Publica*, 29(10), 2039-2048. https://doi.org/10.1590/0102-311X00127312
- Dias, D. T., Claumann, G. S., Ribovski, M., Folle, A., Farias, G. O., Silva, D. A. S., & Pelegrini, A. (2018). Cross-cultural adaptation to Brazilian Portuguese of an instrument to assess teasing during physical/sports activity among Brazilian adolescents. *Revista Paulista de Pediatria*, 36(3), 329-336. https://doi.org/10.1590/1984-0462/:2018:36:3:00005
- Doré, C. (2017). L'estime de soi: Analyse de concept. Recherche en Soins Infirmiers, 129(2), 18-26. https://doi.org/10.3917/rsi.129.0018
- Fenwick-Smith, A., Dahlberg, E., & Thompson, S. (2018). Systematic review of resilience-enhancing, universal, primary school-based mental health promotion programs. *BMC Psychology*, 6(1), 1-17. https://www.ncbi.nlm.ni
- Fernandes, H. M. (2018). Atividade física e saúde mental em adolescentes: O efeito mediador da autoestima e da satisfacao corporal. *Revista de Psicología del Deporte*, 27(1), 67-76.
- García-Hermoso, A., Hormazabal-Aguayo, I., Oriol-Granado, X., Fernández-Vergara, O., & Del Pozo Cruz, B. (2020). Bullying victimization, physical inactivity and sedentary behavior among children and adolescents: A meta-analysis. International Journal of Behavioral Nutrition and Physical Activity, 17(1), 1-10. https://doi.org/10.1186/s12966-020-01016-4
- Gonzaga, I., Claumann, G. S., Scarabelot, K. S., Silva, D. A. S., & Pelegrini, A. (2021). Body image dissatisfaction in adolescents: Comparison with physical activity, teasing and social support. *Journal of Health Psychology*, 26(10), 1651-1660. https://doi.org/10.1177/1359105319887796
- Gualdi-Russo, E., Rinaldo, N., & Zaccagni, L. (2022). Physical activity and body image perception in adolescents: A systematic review. *International Journal of Environmental Research and Public Health*, 19(20), Article 13190. https://doi.org/10.3390/ijerph192013190
- Guddal, M. H., Stensland, S. Ø., Småstuen, M. C., Johnsen, M. B., Zwart, J. A., & Storheim, K. (2019). Physical activity and sport participation among adolescents: Associations with mental health in different age groups. Results from the Young-HUNT study: A cross-sectional survey. *BMJ Open*, 9(9), e028555. https://doi.org/10.1136/bmjopen-2018-028555
- Guedes, D. P., Lopes, C. C., & Guedes, J. E. R. P. (2005). Reprodutibilidade e validade do Questionário Internacional de Atividade Física em adolescentes. *Revista Brasileira de Medicina Do Esporte, 11*(2), 151-158. https://doi.org/10.1590/s1517-86922005000200011
- Guthold, R., Stevens, G. A., Riley, L. M., & Bull, F. C. (2020). Global trends in insufficient physical activity among adolescents: A pooled analysis of 298 population-based surveys with 1.6 million participants. *The Lancet Child and Adolescent Health*, 4(1), 23-35. https://doi.org/10.1016/ S2352-4642(19)30323-2
- levers-Landis, C. E., Dykstra, C., Uli, N., & O'Riordan, M. A. (2019). Weight-related teasing of adolescents who are primarily obese: Roles of sociocultural attitudes towards appearance and physical activity self-efficacy. International Journal of Environmental Research and Public Health, 16(9), 1-16. https://doi.org/10.3390/ijerph16091540
- Jafarigiv, S., & Peyman, N. (2022). The effect of life skills training with health literacy strategies on self-esteem and self-efficacy in female students during puberty. *International Journal of Adolescent Medicine* and Health, 34(1), 1-10. https://doi.org/10.1515/ijamh-2019-0121
  Jankauskiene, R., & Baceviciene, M. (2019). Body image concerns and body
- Jankauskiene, R., & Baceviciene, M. (2019). Body image concerns and body weight overestimation do not promote healthy behaviour: Evidence from adolescents in Lithuania. *International Journal of Environmental Research and Public Health*, 16(5), 1-14. https://doi.org/10.3390/ ijerph16050864

- Keltner, D., Capps, L., Kring, A. M., Young, R. C., & Heerey, E. A. (2001). Just teasing: A conceptual analysis and empirical review. *Psychological Bulletin*, 127(2), 229-248. https://doi.org/10.1037/0033-2909.127.2.229
- Khan, S. R., Uddin, R., Mandic, S., & Khan, A. (2020). Parental and peer support are associated with physical activity in adolescents: Evidence from 74 countries. *International Journal of Environmental Research and Public Health*, 17(12), 1-11. https://doi.org/10.3390/ijerph17124435
- Kołoło, H., Guszkowska, M., Mazur, J., & Dzielska, A. (2012). Self-efficacy, self-esteem and body image as psychological determinants of 15-year-old adolescents' physical activity levels. *Human Movement*, 13(3), 264-270. https://doi.org/10.2478/v10038-012-0031-4
- Låftman, S. B., & Modin, B. (2017). Peer victimization among classmates—associations with students' internalizing problems, self-esteem, and life satisfaction. *International Journal of Environmental Research and Public Health*, 14(10), Article 1218. https://doi.org/10.3390/ijerph14101218
- Leal, G. V. d. S., Philippi, S. T., & Alvarenga, M. dos S. (2020). Unhealthy weight control behaviors, disordered eating, and body image dissatisfaction in adolescents from São Paulo, Brazil. Brazilian Journal of Psychiatry, 42(3), 264-270. https://doi.org/10.1590/1516-4446-2019-0437
  Luiz, R. R., & Magnanini, M. M. F. (2000). A lógica da determinação do
- Luiz, R. R., & Magnanini, M. M. F. (2000). A lógica da determinação do tamanho da amostra em investigações. Cadernos Saúde Coletiva, 8, 9-28. https://edisciplinas.usp.br/pluginfile.php/4116370/mod\_ resource/content/1/DeterminaçãoamostraRonir2000\_2.pdf
- Machado, J. C., Zappe, J. G. ., & Dias, A. C. G. D. (2020). Jéssica Costa Machado Jana Gonçalves Zappe. *Revista Da SPAGESP*, 21(1), 6-20.
- Marcionetti, J., & Rossier, J. (2016). Global life satisfaction in adolescence: The role of personality traits, self-esteem, and self-efficacy. *Journal of Individual Differences*, 37(3), 135-144. https://doi.org/10.1027/1614-0001/a000198
- Matsudo, S. M. M., Araújo, T. L., Matsudo, V. K. R., Andrade, D. R. Andrade, E. L., Oliveira, L. C., & Braggion, G. F. (2001). Questionário Internacional de Atividade Física (IPAQ): Estudo de validade e reprodutibilidade no Brasil. Revista Brasileira de Atividade Física e Saúde, 6(2), 5-17. https://doi.org/10.12820/rbafs.v.6n2p5-18
- Mikkelsen, H. T., Haraldstad, K., Helseth, S., Skarstein, S., Småstuen, M. C., & Rohde, G. (2020). Health-related quality of life is strongly associated with self-efficacy, self-esteem, loneliness, and stress in 14-15-yearold adolescents: A cross-sectional study. Health and Quality of Life Outcomes, 18(1), 1-17. https://doi.org/10.1186/s12955-020-01585-9
- Nunes, D., & Faro, A. (2021). The role of self-efficacy, self-esteem and self-concept in depression in adolescents. *Ciencias Psicologicas*, 15(2), 1-13. https://doi.org/10.22235/cp.v15i2.2164
- O'Dea, J. A. (2012). Body image and self-esteem. In T. Cash (Ed.), *Encyclopedia of body image and human appearance* (pp. 141-147). Academic Press.
- Okely, A. D., Kontsevaya, A., Ng, J., & Abdeta, C. (2021). 2020 WHO guidelines on physical activity and sedentary behavior. *Sports Medicine and Health Science*, 3(2), 115-118. https://doi.org/10.1016/j.smhs.2021.05.001
- Orth, U. (2018). Supplemental material for the family environment in early childhood has a long-term effect on self-esteem: A longitudinal study from birth to age 27 years. *Journal of Personality and Social Psychology*, 114(4), 637-655. https://doi.org/10.1037/pspp0000143.supp
- Pannebàkker, F. D., van Genugten, L., Diekstra, R. F. W., Gravesteijn, C., Fekkes, M., Kuiper, R., & Kocken, P. L. (2019). A social gradient in the effects of the skills for life program on self-efficacy and mental wellbeing of adolescent students. *Journal of School Health*, 89(7), 587-595. https://doi.org/10.1111/josh.12779
- Paricio, D., Rodrigo, M. F., Viguer, P., & Herrera, M. (2020). Positive adolescent development: Effects of a psychosocial intervention program in a rural setting. *International Journal of Environmental Research and Public Health*, 17(18), 1-17. https://doi.org/10.3390/ijerph17186784
- Pazzaglia, F., Moè, A., Cipolletta, S., Chia, M., Galozzi, P., Masiero, S., & Punzi, L. (2020). Multiple dimensions of self-esteem and their relationship with health in adolescence. *International Journal of Environmental Research and Public Health*, 17(8), Article 2616. https://doi.org/10.3390/ijerph17082616
- Petrovics, P., Nagy, A., Sandor, B., Palfi, A., Szekeres, Z., Toth, K., & Szabados, E. (2021). Examination of self-esteem, body image, eating attitudes and cardiorespiratory performance in adolescents. *International Journal of Environmental Research and Public Health*, 18(234), Article 13172. https://doi.org/10.3390/ijerph182413172
- Piercy, K. L., Troiano, R. P., Ballard, R. M., Carlson, S. A., Fulton, J. E., Galuska, D. A., George, S. M., & Olson, R. D. (2018). The physical activity guidelines for Americans. *JAMA Journal of the American Medical Association*, 320(19), 2020-2028. https://doi.org/10.1001/jama.2018.14854
- Pollina-Pocallet, M., Artigues-Barberà, E., Tort-Nasarre, G., Sol, J., Azlor, L., Foguet-Boreu, Q., & Ortega-Bravo, M. (2021). Self-perception and self-acceptance are related to unhealthy weight control behaviors in Catalan adolescents: A cross-sectional study. International Journal of Environmental Research and Public Health, 18(9), 1-13. https://doi.org/10.3390/ijerph18094976
- Rosenberg, M. (1965). Society and the adolescent self-image. Princeton University Press.
- Shroff, H. P., & Ricciardelli, L. A. (2012). Physical appearance changes in childhood and adolescence - boys. In T. Cash (Ed.), Encyclopedia of body image and human appearance (pp. 608-614). Academic Press.

- Slater, A., & Tiggemann, M. (2011). Gender differences in adolescent sport participation, teasing, self-objectification and body image concerns. *Journal of Adolescence*, 34(3), 455-463. https://doi.org/10.1016/j.adolescence.2010.06.007

  Smolak, L. (2012). Physical appearance changes in childhood and
- Smolak, L. (2012). Physical appearance changes in childhood and adolescence girls. In T. Cash (Ed.), Encyclopedia of body image and human appearance (pp. 615-621). Academic Press.
   Su, X., Xiang, P., McBride, R. E., Liu, J., & Thornton, M. A. (2016). At-risk
- Su, X., Xiang, P., McBride, R. E., Liu, J., & Thornton, M. A. (2016). At-risk boys' social self-efficacy and physical activity self-efficacy in a summer sports camp. *Journal of Teaching in Physical Education*, 35(2), 159-168. https://doi.org/10.1123/jtpe.2014-0176
- Szczuka, Z., Banik, A., Abraham, C., Kulis, E., & Luszczynska, A. (2021).
  Associations between self-efficacy and sedentary behaviour: A meta-analysis. *Psychology and Health*, 36(3), 271-289. https://doi.org/10.108 0/08870446.2020.1784419
  Vancampfort, D., Van Damme, T., Firth, J., Smith, L., Stubbs, B., Rosenbaum,
- Vancampfort, D., Van Damme, T., Firth, J., Smith, L., Stubbs, B., Rosenbaum, S., Hallgren, M., Hagemann, N., & Koyanagi, A. (2019). Correlates of physical activity among 142,118 adolescents aged 12-15 years from 48 low- and middle-income countries. *Preventive Medicine*, 127, Article 105819. https://doi.org/10.1016/j.ypmed.2019.105819