

Bullying in Physical Education in Extremadura (Spain)

ABSTRACT

Bullying, understood as repeated and intentional aggression between peers, can seriously affect students' mental, psychological and social health, as well as their academic performance, thereby reinforcing school violence. Physical Education (PE) has been identified as a context where such behaviors can emerge but also as a setting with strong potential for prevention through the promotion of prosocial values. This study aimed to analyze bullying in PE lessons using the European Bullying Intervention Project Questionnaire (EBIPQ) in a sample of 1,155 Spanish students from Compulsory Secondary Education and Baccalaureate. The results revealed statistically significant associations between bullying and variables such as gender, educational level, school environment, daily physical activity and, to a lesser extent, school type. These findings highlight the need for administrations and schools to implement prevention programs specifically designed for the PE context, with the dual objective of reducing bullying behaviors and promoting students' mental well-being and sustainable health in schools.

Keywords: Bullying; Physical education; Physical activity; BMI; EBIPQ; Adolescents

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1. INTRODUCTION

School bullying is defined as malicious actions repeated over time by one or more subjects towards another individual; grouping actions range from social exclusion and isolation of this subject to physical aggression, generally characterized by a relationship with an imbalance of power, although the consequences of bullying are not limited to the people directly involved but extend to the people who observe it (Hamburger et al., 2011; Roland, 2002). There are different ways of executing this bullying: verbally, by making inappropriate comments or putting derogatory nicknames; socially, by damaging the social reputation of the person who suffers it and their relationships; and physically, by assaulting this person or damaging their belongings (Gladden

et al., 2014). Cyberbullying is another type of bullying, which is characterized by being carried out at a distance because it occurs over the Internet, specifically through social networks (Hinduja & Patching, 2019). This type of behavior can occur in different environments, but one of the most common is in educational institutions, where students spend more than six hours a day, making it a place where coexistence is a fundamental factor in order to develop as a person, since it is an environment in which multiple personal relationships are established. Despite the efforts of educational communities to provide a safe environment for students, data have shown an increase in bullying rates in recent years. Globally, cyberbullying rates vary from 10% to 40%, depending on the country and age of the subjects. In recent years, the rate of bullying has risen by 35% compared with data from 2016 to 2019 (Patchin, 2019). In Spain, recent studies have shown that school bullying is still more common than cyberbullying (Pichel et al., 2021), and the rate of students who suffer bullying is 30%, or about one-third of students (Llorent et al., 2021). Bullying has serious consequences for victims. These consequences affect different areas, although some influence others: victims often feel excluded from school or high school, making them not want to attend school; therefore, their education suffers, in addition to increasing feelings of misunderstanding, loneliness, and isolation from both peers and parents. On the other hand, their mental health is directly affected, and they may experience cases of depression, anxiety, suicidal or self-harming thoughts, feelings of loneliness, addiction, eating disorders, personality disorders, and disconnection from reality (Armitage, 2021; Gini & Pozzoli, 2009; Holt et al., 2015; Moore et al., 2017).

The factors that influence bullying are diverse, starting with the demographic characteristics of the students, studies indicate that boys are more likely to suffer, execute, and witness it than girls, decreasing with age, to the physical characteristics of the students (Castañeda-Vázquez et al., 2020), where overweight and obese students are more likely to experience this type of bullying about their physical appearance, feeling vulnerable, and avoiding situations where they have to use their body in a way that they are perceived. The scientific literature suggests that students who do not meet the World Health Organization's physical activity (PA) recommendations are 14% more likely to be bullied than those who do, possibly due to low self-esteem, low motor skills, and low physical fitness (Barnett et al., 2009; Garcia-Hermoso et al., 2019; García-Hermoso et al., 2020). Physical education (PE) is a double-edged sword in this regard since, on the one hand, it is a subject that has the advantage of greater social interaction among students, making it easier for the teacher to identify possible abusive behavior by students, although, on the other hand, this social interaction makes it easier for the bully to carry out this type of attitude (Jiménez-Barbero et al., 2020). PE, on the other hand, has the ability to promote a climate in which everyone is respected under the values of empathy, support, and motivation, promoting more prosocial behavior by all students, constituting itself as a tool to reduce this type of unwanted behavior (Martínez-Baena & Faus-Boscá, 2018). To characterize abusive and victimizing behaviors, both bullying and cyberbullying, the European Bullying Intervention Project Questionnaire (EBIPQ) (Brighi et al., 2012) was developed and subsequently validated in Spanish (Ortega-Ruiz

et al., 2016). Recent studies in Spain, such as those by Benítez-Sillero et al. (2021) and Martínez-Baena & Faus-Boscá (2018), have used the EBIPQ in physical education contexts, demonstrating its applicability in this field.

Furthermore, several studies highlight the importance of gender and age in explaining roles of bullying. For example, boys tend to be more often perpetrators while girls are more frequently victims (Campuzano González et al., 2020; Chocarro & Garaigordobil, 2019; Domínguez-Alonso et al., 2019). In turn, Gómez-Galán et al. (2021) identified that girls are more exposed to indirect forms of bullying such as social exclusion or threats, whereas boys are more frequently involved in physical aggression and gender non-conformity bullying. Similarly, Serrano Díaz et al. (2018) established links between physical activity levels and bullying in primary education, reinforcing the need to consider both health and behavioral dimensions. At the international level, Shemesh and Heiman (2021) underscored the mediating role of resilience and self-concept in buffering the effects of victimization on adolescents' well-being.

Environmental and contextual factors also play a role. Recent research has analyzed how rural and urban environments condition bullying dynamics, with variations in the prevalence of victimization and perpetration across contexts (Cabrera et al., 2022; Rodríguez Álvarez et al., 2022). These findings are relevant because they reveal that school location and type may contribute to differential bullying experiences, despite bullying being present in all contexts.

In this regard, several previous studies by experts in the field have found that PA is an effective tool for transmitting prosocial values and preventing problematic behaviors such as bullying and cyberbullying. Factors that may predict these behaviors or protect students have been studied, finding that those who exercise regularly tend to be less likely to develop these types of negative behaviors, and a negative correlation has been found between PA and bullying related to the physical appearance and weight of victims (Arcila-Arango et al., 2022; Portolés Ariño & González Fernández, 2015). In particular, it has been observed that those with a higher body mass index (BMI) tend to engage in less PA (Losekam et al., 2010; Storch et al., 2006), which is related to a higher risk of being a victim of teasing by their peers (Ievers-Landis et al., 2019); or environmental factors such as location and type of center have been identified as possible determinants of this type of behavior (Bauman, 2010; Cabrera et al., 2022). On the other hand, other types of conditioning factors that explain this phenomenon have also been studied, such as age or gender, which have been correlated with bullying on multiple occasions in search of a profile for interventions to reduce bullying (Benítez-Sillero et al., 2021; Obregon-Cuesta et al., 2022).

For this reason, the aim of this study was to search for possible differences between sexes, type and location of school, age, BMI, and time of daily PA to also look for correlations that describe the behavior of both victims and perpetrators.

2. MATERIALS AND METHODS

2.1 PARTICIPANTS

One thousand one hundred and fifty-five students from the Community of Extremadura who were enrolled in Baccalaureate and Compulsory Secondary Education (CSE) made up the sample. Using a non-probability convenience sampling technique, the subjects in Table 1 were chosen (Salkind et al., 1999). Similarly, participants in this study reported engaging in PA for an average of 1.51 hours per day, with a standard deviation (SD) of 0.88.

Table 1
Sociodemographic of participants (N = 1155)

Variables	Categories	N	%
Gender	Male	564	48.8
	Female	591	51.2
Educational Stage	CSE	877	75.9
	Baccalaureate	278	24.1
Center Environment	Rural	368	31.9
	Urban	787	68.1
Center Type	Public	869	75.2
	Private	286	24.8
BMI	<18.5	316	27.4
	18.5-24.9	718	62.2
	=> 25	121	10.4
Daily PA	<1 hours	105	9.1
	1-3 hours	1029	89.1
	>3 hours	21	1.8

Note: Authors' own elaboration.

2.2 INSTRUMENTS

To compile the sociodemographic characteristics of the students, an initial questionnaire was developed that included aspects such as gender, educational stage, school environment, type of school, height, weight, age and levels of daily PA.

Then, the Spanish version of the European Bullying Intervention Project Questionnaire (EBIPQ) was administered (Ortega-Ruiz et al., 2016) (Appendix A). It consists of 14 items covering two main dimensions, seven indicating behaviors related to Victimization (Dimension 1), and seven referring to behaviors related to Aggression (Dimension 2). Beating, insulting, threatening, stealing, swearing, excluding, or spreading rumors are some of the activities that fall under both categories. Each question is formatted using a Likert scale with a score between 0 and 4, where 0 denotes "Never" and

4 denotes "Always," with a time range of the two months prior. It should be mentioned that while the EBIPQ evaluates bullying in general, it was used in this study in physical education classes, asking students to answer questions based on their own experiences in this setting.

Finally, the Cronbach's alpha value obtained when evaluating the overall reliability of the questionnaire was 0.884, so it can be defined as satisfactory. Likewise, for the victimization and aggression dimensions, values of 0.847 and 0.851, respectively, were found. Likewise, McDonald's Omega reliability coefficient (ω) was calculated, obtaining values of 0.85 for Victimization and 0.86 for Perpetration, confirming adequate internal consistency.

2.3 PROCEDURE

By acquiring access to the Department of Education and Employment's database, it was feasible to determine which institutions provide PE courses for Secondary Education through Baccalaureate (from 12 to 18 years of age). Emails were addressed to the PE teachers working at these locations asking if they could arrange a researcher visit so they could distribute the questionnaire to the students who had their parents' informed agreement. They were instructed to respond to the questions via the same channel. The study's objectives, the parents' informed consent, and the instrument models used were all described in the email. If the instructors agreed to collaborate, they had to respond to the email by setting up for a researcher to visit the school and, with the consent of the students' parents, interview the students about bullying. The questionnaire was initially made available to the students via a tablet, and each item was carefully presented to them one at a time so they wouldn't be perplexed when responding. The data was processed, sanitized, and anonymized once the questionnaires had all been collected so that it could be used for a second researcher's subsequent, blind study. It should be noted that, although EBIPQ assesses bullying in general, in this study it was administered during physical education classes, instructing students to respond based on situations they had experienced in this specific context.

The University of Extremadura's Biosafety and Bioethics Committee (Registration Code 71/2022), located in Spain, has approved a protocol that adheres to the Declaration of Helsinki's principles.

2.4 STATISTICAL ANALYSIS

The data were processed using the statistical application IBM SPSS for MAC (version 23, Chicago, IL, USA). The data's normal distribution was checked using the Kolmogorov-Smirnov test. Since the results of this test demonstrated that the assumption was incorrect, nonparametric tests were used.

To analyze the influence of the sociodemographic variables on the EBIPQ scores, both the individual items and the total ratings of the dimensions that comprise the EBIPQ were evaluated. Thus, possible differences in the variables referring to gender, educational level and school environment were examined using the Mann-Whitney U test, while possible differences

according to BMI were explored using the Kruskal-Wallis's test. The correlation between dimensions scores and three continuous sociodemographic questions was then examined using Spearman's Rho test. The Mondragon-Barrera norms of 0.00 (no correlation), 0.01-0.10 (low correlation), 0.11-0.50 (medium correlation), 0.51-0.75 (substantial correlation), 0.76-0.90 (very high correlation), and 0.91-1.00 (perfect correlation) (Barrera, 2014) were used to interpret the correlation results. Finally, Cronbach's alpha was used to evaluate the dimensions' and the questionnaire's overall reliability. The reliability test results were explained using Nunnally and Bernstein's (Nunnally & Bernstein, 1994) reference intervals of 0.70 (poor), 0.71-0.90 (good), and > 0.91 (excellent).

3. RESULTS

Table 2 shows the values obtained for each of the items that make up the questionnaire, as well as the scores and differences in the categories pertaining to gender and educational stage. In reference to gender, significant differences were obtained in most items, except in items 2, 5, 13 and 14. Male students showed higher scores in the first, fourth, eighth, ninth, eleventh and twelfth items, while girls obtained higher scores in items 3, 6, 7 and 10. As for the educational stage, differences were found in items 1, 7, 9, 10, 11 and 14. Secondary education students only showed higher scores in the first item, while in the remaining items, students belonging to the Baccalaureate showed higher scores.

Table 2

Scores at the general level, by categories and differences according to gender and educational stage in the EBIPQ items

Items	Total M (SD)	Variables					
		Gender		<i>p</i>	Educational level		<i>p</i>
		Male	Female		Secondary Education	Baccalaureate	
Someone has hit, kicked or pushed me.	1.69 (0.77)	1.77 (0.77)	1.62 (0.77)	0.01	1.71 (0.76)	1.62 (0.81)	0.01
Someone has insulted me.	2.28 (0.84)	2.28 (0.85)	2.28 (0.83)	0.66	2.29 (0.83)	2.27 (0.83)	0.69
Someone has said bad things about me to other people.	2.29 (0.92)	2.17 (0.92)	2.41 (0.90)	<0.01	2.30 (0.92)	2.41 (0.90)	0.08
Someone has threatened me.	1.67 (0.87)	1.73 (0.89)	1.62 (0.86)	0.03*	1.69 (0.88)	1.67 (0.87)	0.84
Someone has stolen or broken my things.	1.65 (0.83)	1.68 (0.86)	1.62 (0.81)	0.37	1.68 (0.86)	1.55 (0.75)	0.07
I have been excluded or ignored by other people.	1.94 (0.93)	1.77 (0.90)	2.11 (0.92)	<0.01	1.96 (0.94)	1.93 (0.90)	0.84
Someone has spread rumors about me.	1.96 (0.99)	1.80 (0.95)	2.12 (1.00)	<0.01	1.95 (0.99)	2.10 (1.01)	0.03
I have hit, kicked or pushed someone.	1.55 (0.77)	1.70 (0.82)	1.41 (0.69)	<0.01	1.55 (0.76)	1.55 (0.81)	0.58
I have insulted someone and said bad words to them.	1.98 (0.85)	2.03 (0.86)	1.92 (0.83)	0.02*	1.97 (0.83)	2.14 (0.89)	<0.01
I have said bad words about someone to other people.	1.82 (0.86)	1.78 (0.87)	1.86 (0.84)	0.03*	1.78 (0.85)	2.05 (0.85)	<0.01

I have threatened someone.	1.35 (0.70)	1.45 (0.79)	1.24 (0.57)	<0.01	1.33 (0.68)	1.43 (0.76)	0.04
I have stolen or damaged someone's property.	1.35 (0.65)	1.42 (0.73)	1.28 (0.56)	<0.01	1.34 (0.85)	1.39 (0.68)	0.17
I have excluded or ignored someone.	1.42 (0.66)	1.46 (0.71)	1.39 (0.61)	0.28	1.42 (0.66)	1.46 (0.68)	0.23
I have spread rumors about someone.	1.35 (0.67)	1.36 (0.69)	1.33 (0.64)	0.81	1.32 (0.65)	1.45 (0.71)	<0.01

Each score obtained in the dimensions is based on a Likert scale (0-4) where 0 is "Never" and 4 is "Always".

Note: Authors' own elaboration.

Similarly, Table 3 displays the scores and differences when exploring the type and environment of the center to which the students belong. Looking at the type of center, significant differences were only found in item 7, where students from public centers had higher scores. On the other hand, the environment of the center shows statistical significance in five of the items (5, 9, 10, 12 and 14) where students from rural environments show higher scores in all of them.

Table 3

Scores and differences in the items of the questionnaire, according to the type and environment of the center

Items	Variables					
	Center Type		p	Center Environment		p
	Public	Private		Rural	Urban	
Someone has hit, kicked or pushed me.	1.70 (0.77)	1.65 (0.78)	0.26	1.72 (0.76)	1.67 (0.78)	0.18
Someone has insulted me.	2.29 (0.81)	2.28 (0.89)	0.59	2.23 (0.75)	2.31 (0.87)	0.27
Someone has said bad things about me to other people.	2.33 (0.92)	2.30 (0.90)	0.50	2.28 (0.87)	2.34 (0.93)	0.42
Someone has threatened me.	1.70 (0.87)	1.65 (0.90)	0.27	1.66 (0.82)	1.70 (0.91)	0.99
Someone has stolen or broken my things.	1.65 (0.83)	1.65 (0.83)	0.98	1.55 (0.79)	1.70 (0.85)	<0.01
I have been excluded or ignored by other people.	1.94 (0.91)	1.97 (0.99)	0.99	1.88 (0.88)	1.98 (0.96)	0.13
Someone has spread rumors about me.	2.02 (0.99)	1.89 (1.00)	0.03	1.95 (0.97)	2.00 (1.00)	0.53
I have hit, kicked or pushed someone.	1.55 (0.78)	1.54 (0.74)	0.89	1.52 (0.75)	1.57 (0.78)	0.28
I have insulted someone and said bad words to them.	1.98 (0.83)	2.09 (0.88)	0.08	1.91 (0.79)	2.05 (0.87))	0.01
I have said bad words about someone to other people.	1.83 (0.85)	1.88 (0.88)	0.39	1.70 (0.78)	1.91 (0.88)	<0.01

I have threatened someone.	1.36 (0.70)	1.34 (0.71)	0.57	1.32 (0.67)	1.37 (0.72)	0.49
I have stolen or damaged someone's property.	1.36 (0.66)	1.34 (0.65)	0.47	1.28 (0.59)	1.39 (0.47)	<0.01
I have excluded or ignored someone.	1.43 (0.66)	1.43 (0.66)	0.86	1.38 (0.62)	1.45 (0.68)	0.08
I have spread rumors about someone.	1.36 (0.67)	1.32 (0.66)	0.31	1.28 (0.61)	1.38 (0.70)	0.01

Each score obtained in the dimensions is based on a Likert scale (0-4) where 0 is "Never" and 4 is "Always".

Note: Authors' own elaboration.

Likewise, the scores obtained by the participants in the two dimensions that make up the questionnaire were analyzed, also evaluating possible differences between the categories of sociodemographic variables (Table 4). Gender showed statistically significant differences in both dimensions, where higher scores were found in females in victimization situations and a higher prevalence of aggression behaviors by the male gender. Both educational stages showed similar scores in the first dimension; however, aggression behaviors were more prevalent in high school students ($p < 0.01$). Regarding the type of school, both students from public and private schools showed similar scores in both dimensions. On the other hand, the school environment generated significant differences in the dimension referring to victimization; on the other hand, urban students showed higher scores in aggression behaviors (Dimension 2). Finally, BMI did not seem to influence the scores obtained in the two dimensions that make up the EBIPQ.

Table 4

Scores obtained in the dimensions of the EBIPQ according to variable categories

Variables	Categories	Dimensions			
		Victimization		Aggression	
		M (SD)	p	M (SD)	p
Gender	Male	13.20 (4.50)	<0.01	11.29 (4.12)	<0.01
	Female	13.88 (4.39)		10.51 (3.39)	
Educational Level	Secondary Education	13.55 (4.53)	0.80	10.70 (3.74)	<0.01
	Baccalaureate	13.55 (4.20)		11.49 (3.89)	
Center Type	Public	13.60 (4.78)	0.15	10.87 (3.79)	0.76
	Private	13.39 (4.69)		10.96 (3.79)	
Center Environment	Rural	13.29 (4.12)	0.27	10.44 (3.51)	<0.01
	Urban	13.67 (4.60)		11.10 (3.89)	
BMI	Underweight	13.40 (4.44)	0.69	10.57 (3.47)	0.31
	Healthy weight	13.64 (4.50)		10.98 (3.81)	
	Overweight	13.39 (4.26)		11.27 (4.39)	

Each score obtained in the dimensions is based on a Likert scale (0-4) where 0 is "Never" and 4 is "Always".

Note: Authors' own elaboration

Likewise, Table 5 provides the correlations between the EBIPQ total score, the total score of the dimensions and the variables of BMI, age and hours of daily PA. BMI again, did not exhibit statistically significant correlations with either the EBIPQ total score or its dimensions. In addition, age showed a significant, low and direct association with the EBIPQ total score, as well as a significant, direct and medium relationship with aggression behaviors. However, the correlation between age and the first dimension was not significant. Finally, the daily hours of PA performed by the students only correlated significantly with victimization behaviors in a low and inverse manner.

Table 5

Correlations between the total and dimension scores of the questionnaire with continuous variables

Variables	EBIPQ		
	Σ ECIPQ ρ (p)	Σ Victimization (p)	Σ Aggression ρ (p)
BMI	0.04 (0.18)	0.02 (0.58)	0.04 (0.18)
Age	0.08 (<0.01)	0.01 (0.65)	0.14 (<0.01)
Daily PA	-0.06 (0.08)	-0.09 (<0.0)	-0.01 (0.85)

Each score obtained in the dimensions is based on a Likert scale (0-4) where 0 is "Never" and 4 is "Always".

Note: Authors' own elaboration

4. DISCUSSION

The need to understand bullying experienced or perpetrated in PE classes by students in the Community of Extremadura in CSE and Baccalaureate originated this study. For this purpose, sociodemographic questions that could have an influence were examined, as well as questions from the instrument evaluated, the EBIPQ.

First, in reference to gender, significant differences were obtained in most of the items. As the results of the present study show, boys obtain higher scores in Aggression dimension, while girls obtain higher scores in victimization dimension. In this regard, other recent studies (Campuzano González et al., 2020; Castañeda-Vázquez et al., 2020; Chocarro & Garaigordobil, 2019; Jimbo et al., 2021) support this assertion by pointing out that, while females outnumber males in terms of the percentage of victims, males outnumber females in terms of the percentage of aggressors who admitted to engaging in one or more bullying behaviors. However, previous research (Dominguez-Alonso et al., 2019) highlighted that bullying has an equal negative impact on men and women. In this sense, it was discovered in another study (Gómez-Galán et al., 2021) that girls experienced more verbal abuse due to lack of attractiveness, indirect social exclusion, and bullying by threats, whereas boys experienced more physical abuse, direct social exclusion, and bullying related to gender nonconformity. While it is true that when each behavior was examined separately, "threats" and "indirect social exclusion" were significantly higher in girls than in boys, all other behaviors were significantly higher in boys, and "physical mistreatment" was also significantly higher

percentages of harassment than girls. In other words, girls tend toward social exclusion whereas boys tend toward physical assault (Serrano Díaz et al., 2018; Shemesh & Heiman, 2021). A more recent study than the one mentioned above, however, shows that boy makes it more likely for you to play both the aggressor and the victim/aggressor roles (Rodríguez Álvarez et al., 2022).

Continuing with the educational stage, significant statistical differences were also found. Thus, it is shown that Baccalaureate students show higher scores than CSE students in questions related to Aggression dimension, while CSE students in the first question of the questionnaire have higher values than Baccalaureate students. This may infer that Baccalaureate students are more abusive than CSE students. There are authors . Campuzano González et al., 2020) point out that the average bullying victim is 17 years old. These pupils would therefore be in Baccalaureate. According to this, another author (Gil Villa, 2020) bullying is, however, more likely to occur in the beginning years of compulsory education and less likely to occur at the conclusion of compulsory education, because the average student improves and diversifies his or her extracurricular activities between the ages of 15 and 17. Due this, his vulnerability reduces as he spends less time and emotional energy with those around him, and his victim identity becomes more blurred. Additionally, a more recent study (Chan Coob & Márquez Marín, 2020) demonstrates that violence, particularly physical violence and social exclusion, appears to be more severe among Secondary School students than in Baccalaureate students. High school is the setting where violence is most common. In a similar vein, previous research (Cosma et al., 2017; Merrill & Hanson, 2016) has already demonstrated that physical forms of victimization peaked at the end of secondary school (corresponding to the change from CSE to Baccalaureate), with bullying declining as school level and adolescent age increased for both males and females. However, on the other hand, García-Fernández et al. in a 2018 study found no appreciable variations with respect to course (García-Fernández et al., 2018).

Secondly, regarding the type of center, a significant difference was found only in one item of Victimization dimension, in which students belonging to public centers had higher scores. On the other hand, it can be said that students from rural environments tend to be more abusive than those from urban environments. A recent study (Rodríguez Álvarez et al., 2022) indicates that the percentage of victims, aggressors and victims/aggressors involved in bullying is similar in urban and rural schools. In this regard, kids in urban schools' attack strangers and people they don't know while those in rural schools focus more on their peers. However, victims of bullying are more likely to be in rural settings and students in urban schools are more likely to report aggressive bullying behaviors. Victimization in rural areas and aggression in metropolitan areas had the highest correlation rates, respectively. Additionally, it's conceivable for victims to be subjected to several different forms of bullying at once, which would indicate that there aren't any variations in the prevalence of victimization as a whole, but there are when we look at the percentages separately (Bergmann & Baier, 2018). According to a prior study (Smokowski et al., 2013), the prevalence of bullying is higher in rural than in urban regions, which are in agreement with the findings of the current study. Regarding the type of school, there is a significant difference

in physical violence, since it occurs more in charter/private schools than in public schools (Garaigordobil et al., 2015), however, in the present study and other research (Chacón Cuberos et al., 2019; Del Hoyo Ramirez, 2015; González Lorenzo, 2020), found no differences in bullying between public and charter/private schools. According to Serrano et al. (Serrano Díaz et al., 2018) in both schools, girls exhibit a tendency toward social exclusion while boys exhibit a tendency toward physical abuse. However, in both student bodies, verbal abuse tends to be more prevalent. Nevertheless, despite the lack of statistically significant differences, the girls at the private school scored higher than those in the public school in verbal abuse, direct and indirect social exclusion, threats, and physical abuse (González Lorenzo, 2020). Participants from the public center shown stronger morals throughout scenarios including bullying and group projects while teenagers from the private center, however, had a higher mean when it came to instances of cyberbullying (Chacón Cuberos et al., 2019). Bullying is definitely present in all school contexts, both in rural and urban environments, as well as in private and public schools (Ruiz-Ramírez et al., 2020).

Third, analyzing the scores obtained in the EBIPQ and evaluating possible differences with respect to sociodemographic variables, it can be found that there are significant differences. For gender, females had higher scores for victimization, while males for aggression behaviors (Campuzano González et al., 2020; Castañeda-Vázquez et al., 2020; Chocarro & Garaigordobil, 2019; Gómez-Galán et al., 2021; Jimbo et al., 2021). For the educational stage, similar scores were found in the first dimension, but high school students had more aggressive behaviors compared to secondary school students (Campuzano González et al., 2020). With respect to the type of school, similar scores were found in both dimensions (Chacón Cuberos et al., 2019; Del Hoyo Ramirez, 2015; González Lorenzo, 2020). On the other hand, in the rural environment, higher scores were found in the first dimension, while in the second dimension it was the students in urban environments who showed more aggressive behaviors (Rodríguez Álvarez et al., 2022). Finally, the results of the two dimensions of the questionnaire did not appear to be influenced by BMI. But according to some studies (Hertz et al., 2015; Jimbo Jimbo et al., 2021; Wilson et al., 2013), bullying is based on a variety of traits or conditions, including obesity, being overweight and physical inactivity (PI), among others, and does not happen in a vacuum. Additionally, bullying by peers is a regular occurrence in children who are overweight or obese (Castañeda-Vázquez et al., 2020). Only those subjected to physical violence or who saw domestic violence throughout infancy have a higher BMI compared to those who have not encountered any sort of violence, according to Gooding's study (Gooding et al., 2015), which assesses exposure to various types of violence in childhood. On the other hand, Pengpid et al. (Pengpid & Peltzer, 2019) did not discover a connection between obesity and bullying, but did find a connection with malnutrition. In any event, it should be noted that there aren't many research linking bullying to an increase in BMI (Prado Ghezzi & Cruz Retamozo, 2018).

Finally, when analyzing the correlations between the total score of the EBIPQ, the total score of the dimensions and the variables of BMI, age and hours of physical activity, it was found that BMI did not correlate with either the total score or the dimensions; age showed an association with the total

score of the EBIPQ, but not with the first dimension. Regarding daily hours of physical activity, an inverse association was found with the first dimension. More than one day per week of PA participation was less prevalent among students who reported being bullied (Castañeda-Vázquez et al., 2020; Garcia-Hermoso et al., 2019; García-Hermoso et al., 2020). In this regard, it is important to keep in mind that researchers (Benítez-Sillero et al., 2021; Obregon-Cuesta et al., 2022) found that failing to fulfill daily PA guidelines may be influenced by a number of variables, including age, gender and the interaction between bullying and BMI. Therefore, it was found that overweight girls who had experienced bullying were more likely to disregard PA advice than normal weight girls who had never experienced bullying (Case et al., 2016). Additionally, Riese et al. (Riese et al., 2015) found that students who experienced bullying had increased likelihood of being physically inactive. Additionally, it has been found that those with greater BMIs execute less PA (Losekam et al., 2010; Storch et al., 2006), which is linked to a higher chance of receiving peer harassment (Ievers-Landis et al., 2019). In summary, it can be said that bullying and PA, or PI, are associated in both senses after examining the data from the various researches considered (Arcila-Arango et al., 2022; Castañeda-Vázquez et al., 2020). Additionally, it has been investigated whether practicing PA results in a decrease in aggressive behaviors (Pino-Juste et al., 2019). These findings are consistent with recent national research, such as that of Jiménez-Barbero et al. (2020), which links active participation in PE with lower levels of bullying behavior.

4.1. PRACTICAL IMPLICATIONS

A recent comprehensive systematic review and meta-analysis of the effectiveness of school-based bullying prevention programs found overall that anti-bullying programs are effective (Gaffney et al., 2019). Taking into account that PE is a key subject that allows an effective development of competencies, but also the integral development of the person (Fernández-Bustos et al., 2019), it is suitable for promoting values and behaviors against discrimination for any type of reason, so that it contributes to personal development (Cazalla Luna & Molero López-Barajas, 2013). Therefore, from PE it is possible to influence and develop the physical-psychic aspects of the subject, for the eradication of bullying by improving self-concept (Arcila-Arango et al., 2022).

4.2. LIMITATIONS AND FUTURE LINES OF RESEARCH

The limitations of this study are like those of other studies. First, because the sample only consisted of students from Extremadura, there are a few variables that could have affected the findings, including the answers to the EBIPQ's and sociodemographic. Additionally, non-probability convenience sampling was used to choose the participants, thus care should be taken when presenting the results. Finally, it should be remembered that bullying is not a recent issue; it has existed for more than 50 years and has become more prevalent with the development of the digital age and other kinds of bullying. Therefore, potential directions for future research to include broadening the sample's national scope and including all levels of education, learning why students exclude or

make fun of their classmates as well as the relationships or personal issues they have experienced, educating students about emotions so that they can learn to manage them, and enhancing collaborative and cooperative work so that students can take advantage of individual differences and advance in both interpersonal and intrapersonal skills. They must also be aware of the negative effects that bullying and other forms of abuse can have on a person's psychological, physical, and social well-being. To achieve this goal, it is crucial to reach an agreement with other scholars from various communities and involve all educational agents in the fight against bullying and other forms of abuse.

5. CONCLUSIONS

This research has shown that there are several factors that influence bullying, such as gender, educational level, school environment, hours of physical activity performed and slightly the type of school, although the latter, when analyzed as a whole, obtained similar scores. It should be noted that BMI did not influence the scores obtained; however, considering that physical activity does, this should be analyzed in more detail. Finally, it would be interesting if prevention programs were approved in the administrations and educational institutions, since they have been proven to be effective, but doing so through the area of PE, since this subject contributes essential values to the students and the integral development of the person. It should not be forgotten that to achieve the goal of eradicating bullying and its different types of violence, it is essential that the entire educational community collaborates for the sake of mental well-being and sustainable health at school.

AUTHORSHIP

Authors' contributions: Conceptualization, C.G.-A. and S.G.-P.; Methodology, J.R.-R. and S.G.-P.; Validation, J.R.-R. and S.G.-P.; Formal analysis, J.R.-R.; Research, C.G.-A.; Data curation, J.R.-R.; Writing of original draft, C.G.-A., S.G.-P., A.C.-P. and J.R.-R.; Writing of revisions and corrections, C.G.-A., S.G.-P., A.C.-P. and J.R.-R.; Supervision, A.C.-P. and J.R.-R.; Project administration, C.G.-A. and J.R.-R.; Acquisition of funding, A.C.-P. All authors have read and agree to the publication of this manuscript.

CONFLICT OF INTEREST

The authors declare that there are no conflict of interest.

DATA AVAILABILITY STATEMENT

The datasets are available through the corresponding author upon reasonable request.

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APPENDIX A

Table A1

EBIPQ items in Spanish version

Ítems	Puntuación				
	0	1	2	3	4
Alguien me ha golpeado, me ha pateado o me ha empujado					
Alguien me ha insultado					
Alguien les ha dicho a otras personas palabras malsonantes sobre mí					
Alguien me ha amenazado					
Alguien ha robado o roto mis cosas					
He sido excluido o ignorado por otras personas					
Alguien ha difundido rumores sobre mí					
He golpeado, pateado o empujado a alguien					
He insultado y he dicho palabras malsonantes a alguien					
He dicho a otras personas palabras malsonantes sobre alguien					
He amenazado a alguien					
He robado o he estropeado algo de alguien					
He excluido o ignorado a alguien					
He difundido rumores sobre alguien					

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Assédio escolar no contexto da Educação Física em Extremadura (Espanha)

RESUMO

O assédio escolar, entendido como agressão repetida e intencional entre pares, pode afetar gravemente a saúde mental, psicológica e social dos estudantes, bem como o seu desempenho académico, contribuindo para o aumento da violência escolar. A Educação Física tem sido identificada como um contexto em que esses comportamentos podem emergir, mas também como um espaço com grande potencial preventivo através da promoção de valores pró-sociais. O objetivo deste estudo foi analisar o assédio escolar nas aulas de Educação Física utilizando o European Bullying Intervention Project Questionnaire (EBIPQ) numa amostra de 1.155 estudantes espanhóis do Ensino Secundário Obrigatório e do Bacharelado. Os resultados revelaram associações estatisticamente significativas entre o assédio escolar e variáveis como sexo, nível educativo, ambiente escolar, prática diária de atividade física e, em menor medida, o tipo de escola. Estes achados reforçam a necessidade de que as administrações e as escolas implementem programas de prevenção especificamente concebidos para o contexto da Educação Física, com o duplo objetivo de reduzir comportamentos de assédio escolar e promover o bem-estar mental e a saúde sustentável no meio escolar.

Palavras-chave: Assédio escolar; Educação física; Atividade física; IMC; EBIPQ; Adolescentes

Acoso escolar en el contexto de la Educación Física en Extremadura (España)

RESUMEN

El acoso escolar, entendido como una agresión repetida e intencional entre iguales, puede afectar gravemente a la salud mental, psicológica y social del alumnado, así como a su rendimiento académico, contribuyendo al aumento de la violencia escolar. La Educación Física se ha identificado como un contexto en el que estas conductas pueden manifestarse, pero también como un espacio con gran potencial preventivo mediante la promoción de valores prosociales. El objetivo de este estudio fue analizar el acoso escolar en las clases de Educación Física utilizando el European Bullying Intervention Project Questionnaire (EBIPQ) en una muestra de 1.155 estudiantes españoles de Educación Secundaria Obligatoria y Bachillerato. Los resultados revelaron asociaciones estadísticamente significativas entre el acoso y variables como el sexo, el nivel educativo, el entorno escolar, la práctica diaria de actividad física y, en menor medida, el tipo de centro. Estos hallazgos subrayan la necesidad de que las administraciones y los centros educativos implementen programas de prevención específicamente diseñados para el contexto de la Educación Física, con el doble objetivo de reducir las conductas de acoso y promover el bienestar mental y la salud sostenible en la escuela.

Palabras clave: Acoso escolar; Educación física; Actividad física; IMC; EBIPQ; Adolescentes