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Bullying in adolescence: Impact on socioemotional and behavioral adjustment[☆]

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ABSTRACT

Bullying is a form of repeated aggression against a person with the intent to harm and participate in a situation of abuse of power. The main goal of this study has been to analyze the association between school bullying and the socio-emotional and behavioral adjustment of adolescents involved in bullying situations as victims or as aggressors. To identify the groups under study, the *European Bullying Intervention Project Questionnaire* (EBIP-Q) was administered. A sample selected by stratified random cluster sampling was made, consisting of 1777 (54,1% women, *M* = 15.71 years, *SD* = 1.26). The dimensional model of two interrelated factors (*victimization* and *aggression*) showed a good fit to the data, as well as measurement invariance by gender. The omega coefficient of the *victimization* and *aggression* subscales has been .81 and .80, respectively. Statistically significant differences were found between victim and non-victim groups, and between victims and aggressors in *self-esteem*, *symptoms of depression*, and *emotional and behavioral difficulties*. The victims have obtained lower scores in *self-esteem* and higher scores in *depression* and *emotional and behavioral difficulties* than the victims or the aggressors. The bullies have more *behavior problems* than the non-bullies and a less *prosocial behavior* than the bullied students. These findings corroborate the negative implications in the socio-emotional and behavioral adjustment of bullying in adolescent victims and aggressors, and the adequate psychometric quality of the EBIP-Q scores as a tool for its evaluation.

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Acoso escolar en la adolescencia: impacto en el ajuste socio-emocional y conductual

RESUMEN

El acoso escolar es una forma de agresión reiterada sobre una persona con intención de hacerle daño y partiendo de una situación de abuso de poder. El objetivo del presente trabajo ha sido estudiar la asociación entre el acoso escolar y el ajuste socioemocional y conductual en una muestra de 1777 adolescentes (*M* = 15.71 años, *DT* = 1.26, 54.1% mujeres), seleccionada mediante muestreo aleatorio estratificado por conglomerados. Para identificar los grupos objeto de estudio se ha administrado el *European Bullying Intervention Project Questionnaire* (EBIP-Q) y se han analizado sus propiedades psicométricas. El modelo dimensional de dos factores interrelacionados (*victimización* y *agresión*) muestra un buen ajuste a los datos, así como invarianza de medición en función del sexo. El coeficiente omega de las subescalas de *victimización* y de *agresión* ha sido .81 y .80, respectivamente. Se han encontrado diferencias estadísticamente significativas entre los grupos de víctimas y no víctimas, y entre los de víctimas y agresores en *autoestima*, en síntomas de *depresión* y *dificultades emocionales y conductuales*. Las víctimas han obtenido

puntuaciones menores en *autoestima* y mayores en síntomas de *depresión* y *dificultades emocionales y conductuales* que las no víctimas o que los agresores. El alumnado con comportamientos agresivos presenta más *problemas de conducta* que el no agresor y una menor *conducta prosocial* que el alumnado víctima de acoso. Estos hallazgos confirman las implicaciones negativas en el ajuste socioemocional y conductual del acoso escolar en los adolescentes víctimas y agresores, así como las adecuadas propiedades psicométricas del EBIP-Q.

Introduction

When we talk about bullying, we are inferring a form of abuse between equals determined by a clear abuse of power (Olweus, 1998) that is characterized by (1) a person who is the victim of the bullying carried out by one or more persons; (2) who attack in different ways; (3) over a prolonged period of time; (4) with the intention to cause harm; (5) based on a relationship of power inequality between the person who exercises the aggression and the victim; (6) causing a situation of domination over the victim due to frequent exposure to violent behavior; (7) that extends over time beyond the situation of harassment as a consequence of the residual fear suffered by the victim (Garaigordobil, 2017; Salmivalli, 2010).

The prevalence of these behaviors is heterogeneous and varies depending on the characteristics of the study sample, the definition of bullying, or the measurement instruments, among other aspects. The figures range from 2.5% of adolescents who claim to have regularly been involved in bullying either as a victim or as a bully, to 90% who report having been a part of bullying at least once (Esteller-Cano et al., 2021; León-Pérez et al., 2019; Miranda et al., 2019). Whatever the case, the serious implications associated with this type of behavior for all the people involved, but especially for the victims, has caused great awareness regarding its relevance in all the scenarios in which it takes place (Moore et al., 2017).

Measurement instruments that adapt to the population characteristics and that have adequate psychometric properties are therefore required to understand the prevalence of bullying, study the possible risk and protection factors, and verify the effectiveness of intervention programs (Muñiz & Fonseca-Pedrero, 2019). In this regard, the *European Bullying Intervention Project Questionnaire* (EBIP-Q) has been validated in the Spanish context (Brighi et al., 2012). It is a self-report measure comprised of a reduced number of items, which measure the main types of bullying established in the literature and which allow identifying three profiles: victim, aggressor, and victim/aggressor (Ortega-Ruiz et al., 2016). Previous studies have found adequate levels of reliability for the EBIP-Q (Feijóo, O'Higgins-Norman et al., 2021; Lázaro-Visa et al., 2019). Its internal structure is explained by two related factors: *victimization* and *aggression* (Corral-Pernía et al., 2018; Feijóo, Foody et al., 2021; Rey et al., 2019). Indicators based on the content gathered from the questionnaires' items, its short length, and psychometric quality indicate that the EBIP-Q may be an adequate instrument to study bullying. However, the related studies analyzed results of non-random samples or haven't verified the measurement invariance. As far as we know, there are no studies that analyze the relationship between EBIP-Q profiles (either victim or aggressor) and other variables associated with bullying. In this sense, it seems necessary to underline that, in order to identify and intervene in bullying behaviors, it is essential to understand its implications for both the victims and aggressors. Schoeler et al. (2018) suggest that being a victim of bullying influences adolescents' emotionality and lowers their *self-esteem*. In the study carried out by Kowalski and Limber (2013), statistically significant and positive correlations were obtained between bullying and *anxiety*, *depression,* and *health problems*, both in the victim-

ized student and in the aggressor. A review of the literature that studies the relationship between bullying and *depression* reveals higher levels of *depressive symptomatology* in the victims (Brunstein Klomek et al., 2010; Katsaras et al., 2018). Research carried out by Navarro et al. (2019) and Llorent et al. (2021), among others, shows evidence of the association between bullying and victims' *emotional symptoms*. Some studies have shown that being a victim of bullying reduces *subjective well-being* (Baier et al., 2019; Schoeler et al., 2018). Other research indicates that *subjective well-being* mediates the relationship established between bullying and *suicidal ideation* (Lucas-Molina et al., 2018). Furthermore, aggressors present more *conduct problems* than non-aggressors and less *prosocial behavior* than victims. These findings are consistent with those obtained in previous studies that show how the level of social skills related to conflict resolution is a positive predictor of discriminatory aggression (Rodríguez-Hidalgo et al., 2021). In addition, other studies highlight the existence of a positive relationship between the severity of the acts of bullying in adolescence and a lower social connection with family members and peers (Arango et al., 2016), or the negative relationship between bullying and aggressors' normative and social adjustment compared to individuals not involved in bullying (García Fernández et al., 2015).

Within this field of research, this study aims to analyze the association between bullying and the socioemotional and behavioral adjustment of adolescents involved in bullying. To identify the groups of victims and aggressors, the *European Bullying Intervention Project Questionnaire* (EBIP-Q) was administered, and its psychometric properties were studied. Based on these general objectives, the following secondary objectives were established: (a) examine the internal structure underlying the EBIP-Q scores and verify the measurement invariance according to gender; (b) analyze the reliability of the EBIP-Q scores; (c) study the relationship of the EBIP-Q scores with other psychometric indicators of behavioral and socioemotional adjustment; and (d) observe the mean differences in the EBIP-Q scores depending on the participant profiles.

Method

Participants

The sample selection was carried out using a stratified random sampling technique according to classroom levels. The population consisted of approximately fifteen thousand students from the Autonomous Community of La Rioja. The criteria used to create the strata were the type of center (public or private-subsidized), educational stage (Compulsory Secondary Education, Baccalaureate, and Vocational Training), and the geographical area where the school was located (Rioja Baja, Rioja Media, and Rioja Alta). The probability of choosing each classroom depended on the number of enrolled students. In total, 31 schools and 98 classrooms participated in the study. A total of 1972 students with an age range from 14 to 30 years answered the questionnaires. After excluding students over 19 years of age and those with high scores on the *Oviedo Infrequency Scale-Revised,* INF-OV (Fonseca-Pedrero et al., 2019), for detection of random or pseudo-random responses, the final sample consisted of 1777 students, 54.1% women. The students were

between 14 and 18 years of age (M = 15.71 years, SD = 1.26). To carry out the cross-validation study, the sample was randomly divided into two subsamples. The mean age in the first subsample (n = 889) was 15.70 years (SD = 1.25) (54.24% women), and 15.72 years in the second (SD = 1.27) (54.05% women). No statistically significant differences were found based on gender (χ^2 = 0.005, p = .945) or age (t = .34, p = .738) between the two subsamples.

Instruments

European Bullying Intervention Project Questionnaire (EBIP-Q) (Brighi et al., 2012; Spanish version Ortega-Ruiz et al., 2016). Evaluates involvement in bullying, as defined above. It consists of 14 Likert-type items with five response options (0 = never, 1 = once or twice, 2 = once or twice a month, 3 = about once a week, and 4 = more than once a week). The first seven items collect behaviors related to *victimization* and the next seven correspond to *aggressive behaviors*. Students must indicate the frequency with which they have participated in each of these situations in the last two months. To evaluate both dimensions, the items refer to actions such as hitting, insulting, threatening, stealing, ignoring a person, or spreading rumors (Ortega-Ruiz et al., 2016). In the present study, following the criteria of Del Rey et al. (2015), participants who had been the subject of any of the 7 *victimization* behaviors with a minimum frequency of once or twice a month and who had not expressed any bullying behaviors with a minimum frequency of once or twice a month were identified as victims. To categorize the *aggressor* profile, the participants who expressed any of the 7 aggressive behaviors with a minimum frequency of once or twice a month and who had not suffered from any bullying behaviors with a minimum frequency of one or two times a month were identified as agressors.

Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965; Spanish version Vázquez Morejón et al., 2004). Self-report measure that assesses self-esteem. It consists of 10 items that are answered following a four-point Likert-type scale (1 = almost never; 4 = almost always) in which the highest score indicates higher or positive *self-esteem*. The Spanish version was used, the psychometric properties having been analyzed in previous studies (Oliva et al., 2011; Rosenberg & Owens, 2001).

Reynolds Adolescent Depression Scale-Short form (RADS-SF) (Reynolds, 2004; Spanish version Figueras-Masip et al., 2008). Self-report measure used to evaluate *depressive symptomatology* in adolescents aged between 12 and 18 years. It consists of 10 statements in Likert-type response format with four options (1 = hardly ever; 4 = almost always) corresponding to the four scales of the original version: anhedonia (item 1), somatic complaints (item 22 and 28), negative self-evaluation (items 14, 19, 20 and 30), and dysphoric mood (items 3, 6 and 7). The final score on the scale is equal to the sum of the scores on each of the items. The RADS-SF has been widely used, presenting adequate psychometric properties in Spanish adolescents (Fonseca-Pedrero et al., 2010; Ortuño-Sierra et al., 2017).

Strengths and Difficulties Questionnaire (SDQ) self-reported version (Goodman, 1997; Spanish version Ortuño-Sierra et al., 2016). Measurement instrument that assesses behavioral and emotional difficulties, as well as strengths in the social sphere. It is used as a screening and epidemiological analysis tool for the state of mental health in the child and adolescent population. It consists of 25 items with a Likert-type response format with three options (0 = no, never, 1 = sometimes, 2 = yes, always). It is structured in five subscales with five items each: emotional symptoms, conduct problems, hyperactivity, peer relationship problems, and prosocial behavior. The sum of the scores of the first four subscales makes up the total difficulties score. Regarding the prosocial behavior subscale, a lower score indicates worse behavioral adjustment.

Oviedo Infrequency Scale-Revised (INF-OV-R) (Fonseca-Pedrero et al., 2009; Fonseca-Pedrero et al., 2019). Administered to participants to detect those who have responded randomly, pseudo-randomly, or dishonestly to the different instruments. The INF-OV-R is a self-report measure made up of 10 items in a 5-point Likert-type scale format (1 = completely disagree to 5 = completely agree). Participants with two or more incorrect answers on the INF-OV-R scale are eliminated from the sample.

Procedure

First, school management of the selected centers were contacted. Subsequently, the informed consent of the students' families was requested. The administration of the questionnaires was carried out collectively in groups of 15 to 25 students. The researchers in charge of administering the questionnaires had been trained in the protocol and standards to be followed during and after the process. The informed consent of all the participants was collected and the students were informed of the voluntary nature of their participation and the confidentiality of their answers. The study was approved by the Clinical Research Ethics Committee of La Rioja (CEICLAR).

Data analysis

The descriptive statistics of the items were calculated first. Second, a cross-validation study was carried out, randomly dividing the total sample into two subsamples. Using the Solomon method (Lorenzo-Seva, 2021) to obtain two equivalent subsamples, the KMO of the first subsample was .834 and the second .828, the communality index S was therefore .992. The MSA values of all items were greater than .76. In the first subsample, an exploratory factor analysis (EFA) was carried out using the Minimun Rank Factor Analysis method with Promin rotation (Lorenzo-Seva & Ferrando, 2019). Factor loadings were estimated using the polychoric correlation matrix (Ferrando et al., 2022). To determine the number of underlying dimensions, the optimal implementation procedure of Parallel Analysis was used. In the second subsample, a Confirmatory Factor Analysis (CFA) was conducted. Given the absence of multinormality in the data (Mardia's coefficient = 641.16) and the ordinal nature of the items, the diagonal weighted least squares (DWLS) estimation method based on the polychoric correlation matrix was used (Ferrando et al., 2022). The hypothesis formulated in the CFA was supported by the questionnaire characteristics, structured into two related dimensions: *victimization* and *aggression*, and the consulted literature (Gómez-Ortiz et al., 2017; Lázaro-Visa et al., 2019; Ortega-Ruiz et al., 2016). The goodness-of-fit indices used were the comparative fit index (CFI), the Tucker-Lewis index (TLI), the root mean squared error of approximation (RMSEA) and its 90% confidence interval, and the Standardized Root Mean Square Residual (SRMR). For a good fit, CFI and TLI values should be greater than 0.95 and RMSEA values should be less than 0.08 for a reasonable fit and less than 0.05 for a good fit (Hu & Bentler, 1999). At the same time, the measurement invariance according to gender was analyzed. The existence of configural invariance implies that the factorial structure is the same in the compared participant groups. Metric invariance indicates that factor loadings do not differ between groups (Byrne, 2008) and focuses on observed variables. When choosing the type of data invariance, when the change in the CFI index from a less restrictive model to a more restrictive one is equal to or less than .01, the new restrictions are admitted, and the next invariance level is analyzed. Subsequently, the reliability of the instrument scores is estimated using the Cronbach's Alpha and McDonald's Omega coefficients and calculating the composite reliability and the mean variance extracted. In order to observe the implications of bullying, the Pearson correlations between the

Table 1
Descriptive statistics of the items of the European Bullying Intervention Project Questionnaire

Items		M	SD	Symmetry	Kurtosis
V1	Someone has hit me, kicked me, or pushed me				
V2	Someone has insulted me	0.84	1.13	1.36	1.11
V3	Someone has said things about me to other people because they wanted to hurt me	0.74	1.00	1.42	1.55
V4	Someone has threatened me	0.19	0.58	3.87	17.50
V5	Someone has stolen or damaged my things	0.17	0.50	3.67	16.28
V6	Other people have left me out (ignored me)	0.29	0.74	3.20	11.10
V7	Someone has gossiped about me to other people	0.51	0.86	2.01	4.56
A8	I have hit, kicked, or pushed someone	0.23	0.62	3.42	13.81
A9	I have insulted or said things to someone because I wanted to hurt them	0.68	0.99	1.64	2.40
A10	I have said things about someone to other people because I wanted to hurt them	0.54	0.86	1.73	2.84
A11	I have threatened someone	0.15	0.50	4.18	20.72
A12	I have stolen or damaged someone else's things	0.10	0.40	5.26	35.12
A13	I've left someone out (I've ignored them)	0.23	0.59	3.44	14.47
A14	I have gossiped to other people about someone	0.20	0.55	3.58	15.48

Note. V = *victimization* items; A = *aggression* items.

scores of the different instruments were computed and the *student's* t-test contrast of means for independent groups was applied to check if there were statistically significant differences between the groups: victims/non-victims, aggressors/non-aggressors, and victims/aggressors in the socioemotional variables. As an estimate of the effect size, Cohen's "*d*" was used. The statistical programs Factor 12, SPSS 24 and JASP 0.14 was used.

Results

Descriptive statistics of the items

Table 1 shows the mean, standard deviation, symmetry, and kurtosis of the EBIP-Q items.

Evidence of internal structure: exploratory and confirmatory factor analysis

Regarding the EFA carried out with the first subsample, the Bartlett sphericity index was 8213.2 ($p < .001$). The goodness-of-fit indices were CFI = .96, TLI = .95, RMSEA = .075 (90% CI = .050–.080), and SRMR = .057. The first factor explained 46.64% of the variance (eigenvalue = 6.53) and the second one 10.70% (eigenvalue = 1.50). The optimal implementation of the parallel analysis advises the extraction of two factors that explain 57.34% of the total variance. The first factor was called *victimization* and the second *aggression*. The correlation between the two factors was .70 ($p < .01$). The estimated factorial loadings for this factorial solution are shown in Table 2. As can be seen, some items reach factorial loadings which are greater than .25 in both factors. The one-dimensional model tested in the CFA with the second subsample ($n = 888$) had the following fit indices: CFI = .93, TLI = .92, RMSEA = .047 (90% CI = .040 – .054), and SRMR = .095. In the two-dimensional model, the fit indices were CFI = .97, TLI = .97, RMSEA = .031 (90% CI = .023 – .039), and SRMR = .070. The resulting standardized factor loadings for this two-dimensional model are presented in Table 2. All are statistically significant ($p < .01$). The evaluation of the adjustment of the data to a one-dimensional solution was carried out using the indices offered by the Factor program (Ferrando & Lorenzo-Seva, 2018), UniCo = .940, ECV = .786, and MIREAL = .266. The I-REAL index exceeds the value of .30 in 6 of the questionnaire items.

The measurement invariance analysis according to gender presents satisfactory adjustment indices for the configural model: GFI = .97; CFI = .99; RMSEA = .019. When testing the metric invariance model and comparing its results with the configural model (M0), differences greater than 0.01 ΔCFI were found between

Table 2
Estimated factor loadings for exploratory factor analysis and confirmatory factor analysis

Items	EFA Factor loadings		CFA Standardized factor loadings	
	F I	F II	F I	F II
V1	.47	.25		.32
V2	.23	.61		.87
V3	-.14	.98		.77
V4	.18	.61		.34
V5	.16	.41		.21
V6	-.25	.82		.29
V7	-.15	.88		.51
A1	1.07	-.26	.35	
A2	.72	.14	.76	
A3	.39	.32	.52	
A4	.86	-.06	.29	
A5	.62	.04	.17	
A6	.31	.26	.24	
A7	.24	.40	.26	

both models (ΔSB-χ^2 = 183.1; Δdf = 12; ΔCFI = .39). The results are shown in Table 3.

Score reliability

Table 4 shows the reliability of the scores, estimated with both Cronbach's Alpha and McDonald's Omega. In the case of the EBIP-Q and SDQ subscales, the composite reliability and the mean variance extracted were also obtained.

Relationship between bullying and socioemotional and behavioral adjustment

Table 5 shows the Pearson correlations between the scores of the measurement instruments used. The EBIP-Q subscales, *victimization* and *aggression*, show the same pattern. On the one hand, they correlate in a statistically significant and positive way with *emotional symptoms, conduct problems, hyperactivity, peer relationship problems,* and *depressive symptoms* and, on the other, in a statistically significant and negative way with *self-esteem* and *prosocial behavior*.

In order to analyze the possible differential effects of the bullying profiles (victim and aggressor) on *self-esteem, symptoms of depression,* and *emotional* and *behavioral difficulties*, three groups were compared: (1) victim and non-victim, (2) aggressor and non-aggressor, and finally, (3) victim and aggressor. Next, mean contrasts were carried out. The results of the analyses are shown in Table 6.

Table 3
Goodness-of-fit indices of invariance models according to gender

Model	GFI	CFI	RMSEA	CI 90%	SB-χ^2	df	Δ SB-χ^2	Δdf	ΔCFI
Configural invariance	.96	.99	.015	0 - .027	166.78	152			
Metric invariance	.93	.95	.040	.032 - .048	281.22	164	114.44	12	.04
Scalar invariance	.92	.95	.050	.043 - .057	368.04	176	86.82	12	.00
Strict invariance	.94	.90	.053	.046 .060	425.28	190	57.24	14	.05

Table 4
Reliability of the scores of the measurement instruments

	α	ω	Composite Reliability	Mean Variance Extracted
EBIP-Q	.84	.86		
EBIP-Q *Victimization*	.78	.81	.80	.42
EBIP-Q *Aggression*	.78	.80	.80	.42
RSE	.88	.89		
RADS-SF	.83	.84		
SDQ-Total	.74	.75		
SDQ-PREM	.71	.71	.72	.34
SDQ-PRCD	.49	.50	.50	.19
SDQ-PRCM	.63	.62	.63	.26
SDQ-HIP	.57	.58	.57	.22
SDQ-PROS	.53	.54	.53	.20

Note. EBIP-Q = *European Bullying Intervention Project Questionnaire*; RSE = Rosenberg Self-Esteem Scale; RADS-SF = *Reynolds Adolescent Depression Scale- Short form*; SDQ total = *Strengths and Difficulties Questionnaire*, total difficulty score; SDQ-PREM = Emotional symptoms; SDQ-PRCD = Conduct problems; SDQ-PRCM = Peer relationship problems; SDQ-HIP = Hyperactivity; SDQ-PROS = Prosocial behavior.

Table 5
Pearson correlations between bullying and socioemotional and behavioral adjustment

Variable	EBIP-Q *Victimization*	EBIP-Q *Aggression*	RSE	RADS-SF	SDQ Total	SDQ-PREM	SDQ-PRCD	SDQ-PRCM	SDQ-HIP
EBIP-Q *Aggression*	.47**								
RSE	-.27**	-.08**							
RADS-SF	.34**	.18**	-.72**						
SDQ	.36**	.22**	-.58**	.68**					
SDQ-PREM	.21**	.04	-.61**	.64**	.74**				
SDQ-PRCD	.26**	.31**	-.22**	.36**	.64**	.19**			
SDQ-PRCM	.33**	.10**	-.36**	.50**	.55**	.35**	.20**		
SDQ-HIP	.19**	.16**	-.27**	.27**	.68**	.23**	.44**	.05*	
SDQ-PROS	-.10**	-.18**	.10**	-.21**	-.18**	.03	-.28**	-.15**	-.14**

Note. EBIP-Q = *European Bullying Intervention Project Questionnaire*; RSE = Rosenberg Self-Esteem Scale; RADS-SF = *Reynolds Adolescent Depression Scale- Short form*; SDQ total = *Strengths and Difficulties Questionnaire*, total difficulty score; SDQ-PREM = Emotional symptoms; SDQ-PRCD = Conduct problems; SDQ-PRCM = Peer relationship problems; SDQ-HIP = Hyperactivity; SDQ-PROS = Prosocial behavior.
  * $p \le .05$.
  ** $p \le .01$.

Table 6
Comparisons of means between groups of victims and aggressors

Group	Victim		Non-victim				Aggressor		Non-aggressor				Victim		Aggressor			
Variable	M	SD	M	SD	t	d	M	SD	M	SD	t	d	M	SD	M	SD	t	d
RSE	28.88	5.74	31.28	5.39	−7.09*	−0.44	31.26	5.21	30.82	5.56	.88	0.08	28.88	5.74	31.26	5.21	−4.08*	−0.43
RADS-SF	17.88	4.96	16.03	4.25	6.17*	0.40	16.60	4.16	16.34	4.46	.64	0.06	17.88	4.96	16.60	4.16	2.59*	0.27
SDQ total	12.76	5.22	10.55	4.98	7.10*	0.43	11.12	4.49	10.93	5.14	.39	0.04	12.76	5.23	11.12	4.49	3.15*	0.33
SDQ-PREM	4.21	2.56	3.26	2.34	6.05*	0.39	3.29	2.39	3.44	2.40	-.67	−0.06	4.21	2.56	3.29	2.39	3.49*	0.36
SDQ-PRCD	1.80	1.40	1.72	1.58	1.04	0.06	2.07	1.56	1.70	1.54	2.56*	0.24	1.81	1.40	2.07	1.56	−1.74	−0.18
SDQ-PRCM	1.98	2.00	1.31	1.42	5.72*	0.39	1.24	1.27	1.44	1.58	−1.73	−0.14	1.98	2.00	1.24	1.27	4.71*	0.44
SDQ-HIP	4.77	2.13	4.27	2.16	3.73*	0.23	4.52	1.94	4.34	2.18	.86	0.08	4.77	2.13	4.52	1.94	1.16	0.12
SDQ-PROS	8.59	1.39	8.56	1.42	.41	0.03	8.09	1.65	8.60	1.39	−3.41*	−0.33	8.59	1.39	8.09	1.65	3.04*	0.33

Note. M = Mean; SD = Standard deviation; d = d of Cohen. 1 = group 1; 2 = group 2.
  * $p \le .05$.

The group of students who were victims of bullying presented significantly lower mean scores in self-esteem, as well as significantly higher scores in *symptoms of depression* and *behavioral, emotional* and *peer difficulties*, compared to the non-victim participants and to those in the group of aggressors. Likewise, this group reaches significantly higher mean scores in terms of *hyperactivity* than the non-victim group. Regarding the group of aggressors, they obtain significantly lower mean scores in *prosocial behavior* compared to both the non-aggressor group and the victim group and present significantly higher mean scores in *conduct problems* than the non-aggressor group. All effect sizes are moderate.

Discussion

The objective of this study was to explore the association between bullying and socioemotional and behavioral adjustment in a representative sample of adolescents from the general population. In order to identify the groups under study, the EBIP-Q

was administered, and its psychometric properties were examined. Regarding the evidence of internal structure, the results achieved show that the bifactorial structure presents an adequate fit. The first seven items are grouped in the *victimization* factor and the following seven in the *aggression* factor. Furthermore, configural invariance according to sex has been demonstrated, an aspect not analyzed in previous studies. This allows us to assert that the factorial structure that has been found is similar in the analyzed subgroups. Future studies specifically focused on the analysis of the psychometric properties of the EBIP-Q could be aimed at examining the partial metric invariance to determine if there is any specific item that fails to meet the most restrictive levels of invariance (Shorey et al., 2019). Regarding the reliability of the scores, the values of the internal consistency coefficients of the scores of the two EBIP-Q subscales are satisfactory (Prieto & Delgado, 2010). The composite reliability of the EBIP-Q subscales is also adequate, although the extracted mean variance values are below those expected (Angelo et al., 2019).

The association between bullying and different indicators of socioemotional adjustment such as *self-esteem, prosocial behavior, symptoms of depression* and *emotional, behavioral,* and *social difficulties* has also been analyzed. The relationship between victimization and aggression scores and these variables is supported by the scientific literature (Menesini & Salmivalli, 2017; Twardowska-Staszek et al., 2018). Previous studies have indicated that adolescents who suffer from bullying have low *self-esteem* (Estévez López et al., 2006; Oñate & Piñuel, 2006), sometimes caused by the self-perception of low competence (Menéndez Santurio et al., 2020). In longitudinal research, bullying largely precedes the onset of its symptoms (Moore et al., 2017). Considering there is a high prevalence of bullying at schools (Esteller-Cano et al., 2021; León-Pérez et al., 2019; Menesini, 2019), experiencing it becomes a risk factor for the victims in terms of developing psychological disorders. Disorders that may appear at the time in which they suffer and for the rest of their lives (Baier et al., 2019; Múzquiz et al., 2021). *Depressive symptomatology* is associated with being a victim of bullying (Brunstein Klomek et al., 2019). In the present study, the findings follow the same line: victims show significantly higher scores than non-victims in terms of *depression* symptoms. Similarly, regarding victim *emotional* and *behavioral problems*, this group's mean score on the SDQ questionnaire is significantly higher than the non-victim group or aggressor group. The results also indicate that belonging to the aggressor profile is associated with difficulties of a different nature. Aggressors present more *conduct problems* than non-aggressors and less prosocial behavior than bullying victims and non-aggressors. This is consistent with previous research. The problems that some students have in establishing social relationships are associated with their bullying behaviors (Volk et al., 2014). The low tolerance for frustration or the cognitive distortions that bullies experience during the processing of social information are related to their aggressive behavior (Tejada et al., 2021). As other research points out, it is a myth that the aggressor does not suffer from *depression* or *psychological problems* (Thomas et al., 2018) in the same way as the bullied student.

However, the interpretation of the results obtained is conditioned by the limitations inherent to this type of research. In the first place, one should note that the data has been obtained through self-report measures. The effect that social desirability can have on the answers given by the participants can influence the veracity of their answers. Second, although the sample is large and representative, it belongs to a Spanish autonomous community (La Rioja), an aspect that limits the generalization of the results. Third, the cross-sectional nature of the study precludes making cause-effect inferences. Finally, the low reliability indices found in the SDQ

subscales indicate that the results obtained using these subscales should be taken with caution.

Administering measurement instruments, such as the EBIP-Q, with the purpose of early and reliable identification of groups at high risk of suffering bullying or exercising it, will allow the development of preventive interventions that help mitigate or avoid its impact in both victims and aggressors (Ortuño-Sierra et al., 2016) in educational contexts. Future longitudinal studies will be useful to analyze the effect of interventions aimed at reducing bullying behaviors and their associated consequences in schools. The results achieved through the analysis of *offline* or in person bullying invite us to carry out similar studies focused on the behaviors of *online* bullying or cyberbullying and compare both forms. It would be relevant to inquire about its differential characteristics, its possible occurrence in the same temporal space and its effects on the psychological well-being of the adolescents involved (Olweus, 2012; Ortega-Ruiz et al., 2016).

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