Psychology, Society & Education (2024) 16(3), 63-71

Psychology, Society & Education

www.uco.es/ucopress/ojs/index.php/psye

Bullying, cyberbullying, and empathy as longitudinal predictors of self-esteem

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Keywords

Adolescents
Victimization
Perpetration

Abstract

Research has shown that high self-esteem has numerous personal and social benefits, especially in adolescents. However, it is necessary to examine whether involvement, as aggressors or victims, in online and offline aggressive behaviours or the presence or absence of empathy, affective and cognitive, can influence adolescents' self-esteem. The present study analysed whether bullying, cyberbullying, and empathy were longitudinally related to self-esteem. It was hypothesized that low bullying and cyberbullying involvement and high affective and cognitive empathy would be related to high self-esteem. The sample consisted of 876 students (48.7% girls) aged 12-19 years (M = 14.91, SD = 1.71) through a longitudinal study with two waves of survey data collection. Low bullying victimization and high cognitive empathy were found to be related to high self-esteem cross-sectionally and longitudinally. Likewise, lower affective empathy, low cyberbullying victimization, and low bullying aggression were longitudinally related to higher self-esteem. It is suggested that decreased bullying and cyberbullying and increased cognitive empathy could have numerous benefits for self-esteem improvement in prevention and mental health intervention programs with adolescents who are in the educational stage.

Acoso, ciberacoso y empatía como predictores longitudinales de la autoestima

Palabras clave

Adolescentes
Victimización
Perpetración

Resumen

La investigación ha demostrado que una alta autoestima tiene numerosos beneficios personales y sociales, especialmente en adolescentes. Sin embargo, es necesario examinar si la implicación, como agresores o víctimas, en conductas agresivas *online* y *offline* o la presencia o ausencia de empatía, afectiva y cognitiva, puede influir en la autoestima de los adolescentes. En el presente estudio se analizó si el *bullying*, el *cyberbullying* y la empatía se relacionaban longitudinalmente con la autoestima. Se hipotetizó que un bajo nivel de implicación en bullying y cyberbullying, y una alta empatía afectiva y cognitiva estarían relacionados con una alta autoestima. La muestra consistió en 876 estudiantes (48.7% chicas) de entre 12 y 19 años (M = 14.91, DT = 1.71) a través de un estudio longitudinal con dos oleadas de recogida de datos de encuestas. Se encontró que una baja victimización por acoso y una alta empatía cognitiva estaban relacionadas con una alta autoestima transversal y longitudinalmente. Asimismo, una menor empatía afectiva, baja victimización por ciberacoso y baja agresión por acoso se relacionaron longitudinalmente con una mayor autoestima. Se sugiere que la disminución del acoso y el ciberacoso y el aumento de la empatía cognitiva podrían tener numerosos beneficios para la mejora de la autoestima en los programas de prevención e intervención en salud mental con adolescentes que se encuentra en la etapa educativa.

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Cite this article as: Benítez-Sillero, J. D., Falla, D., Córdoba-Alcaide, F., & Zych, I. (2024). Bullying, cyberbullying, and empathy as longitudinal predictors of self-esteem. *Psychology, Society & Education, 16*(3), 63-71. https://doi.org/10.21071/psye.v16i3.16243
Received: 19 July 2024. *First review*: 29 May 2024. *Accepted:* 4 October 2024.

ISSN 1989-709X

According to Rosenberg (1965), self-esteem is understood as a feeling toward or assessment of oneself, which can be positive or negative, and it is built through an evaluation of one's own characteristics (Orth & Robins, 2019). Research has shown that high or positive self-esteem has numerous benefits such as active lifestyles, good general (Calmeiro & Matos, 2016), and mental health (Nguyen et al., 2019) during preadolescence and adolescence. Thus, promoting self-esteem is crucial for desirable youth development. This is only possible if risk and protective factors for high self-esteem are discovered. In this sense, Eisenberg and Fabes' (1998) theory of socioemotional development points out that emotional and social experiences, such as aggression and empathy, influence the development of self-esteem over time. While, Leary and Baumeister's (2000) Sociometer Theory of Self-Esteem proposes that self-esteem reflects the degree to which a person feels accepted or rejected by others. Thus, empathetic people tend to have better social skills and build stronger and more positive relationships that can strengthen their self-esteem by feeling more secure and supported (Portt et al., 2020), while those involved in bullying and cyberbullying tend to have a worse network of friends (Ho et al., 2022) and their friendship relationships tend to be less lasting, so over time they might feel lonely and have a worse perception of the school environment (Hurtado-Mellado & Rodríguez-Hidalgo, 2024), which could affect their self-esteem, given the importance of social support in self-esteem (Harris & Orth, 2020).

Although research on self-esteem has been fruitful (Agustiningsih et al., 2023), more research is still needed on the effect that involvement in bullying, cyberbullying as a victim or aggressor or having greater or lesser empathy may have on this intrapersonal variable. These factors are especially important because bullying and cyberbullying are present and prevalent in schools around the world (Modecki et al., 2014) and whose consequences on adolescent mental health have been evidenced through meta-analyses (Li et al., 2022). In turn, high empathy is related to desirable outcomes in quality of life (Jenkins, 2019), prosocial behaviour, and improved social relationships and positive self-evaluation (Silke et al., 2018), causing it to be frequently promoted in schools (Durlak et al., 2011). Therefore, given the intricate relationships between these variables (Adiyanti et al., 2020; Martínez et al., 2020), and the potential impact these may have on the development of good self-esteem, it is crucial to understand the longitudinal relationships that self-esteem has with bullying, cyberbullying, and empathy. Therefore, the present study describes these relationships using a longitudinal design. This information will provide evidence for school policy and practice in mental health, sustainability, and culture of peace (Ortega-Ruiz, 2020).

Self-esteem in those involved in bullying and cyberbullying

Schools play an important role in shaping self-esteem in young people and adolescents (Coelho et al., 2020). However, in the peer networks that develop there and later converge in cyberspace, there are problems such as bullying and cyberbullying that especially damage self-esteem (Li et al., 2022). Bullying is an intentional aggressive behavior, repeated over time and perpetrated by some students on their less strong peers (Menesini & Salmivalli, 2017). Bullying occurs among peers and in the peer group, where the perpetrator intentionally harms the victim in a physical, psychological, or social way, supported by a group of bystanders, while the victim is isolated and finds it difficult to defend himself or herself (Olweus, 1999). Bullying is an immoral behavior considered unfair and ethically unacceptable (Ortega-Ruiz, 2020).

A broad access to the Internet and electronic devices created a new context for a phenomenon called cyberbullying. Smith et al. (2008) defined cyberbullying as an intentional aggression, repeatedly perpetrated through electronic devices, by a group or an individual on a victim who cannot defend himself or herself easily. Cyberbullying shares the three defining characteristics of bullying such as an intention of harm, repetition, and an imbalance of power, and it also has some unique characteristics such as possible anonymity of the perpetrator, broad audience, and the fact that an aggressive act can remain online and get reproduced without any further intervention from the perpetrator (Peter & Petermann, 2018).

Both, bullying and cyberbullying are present and prevalent in schools around the world. A meta-analysis conducted by Modecki et al. (2014) reported that around 35% of students are involved in bullying perpetration, around 36% in victimization, around 15% of students are involved in cyberbullying perpetration and around 15% are involved in cybervictimization. These percentages can reach 50-60% if low severity and low frequency of bullying are included, and they can be around 25-30% if only the most severe cases are included (Zych et al., 2016).

There are several research studies that focused on the relationship between bullying or cyberbullying and different psychosocial factors, including self-esteem (Zych et al., 2019). Low self-esteem was found to be related to bullying victimization (Choi & Park, 2021) and cybervictimization (Núñez et al., 2021). This relationship between being subjected to victimization or cybervictimization and low self-esteem has been observed in studies conducted in different geographical areas, including numerous Western countries (Rodríguez-Hidalgo et al., 2018) and remote areas such as the Amazon (Martínez et al., 2020). However, there are fewer studies on the relationship of victimization to self-esteem in this direction. In a meta-analysis, which included 15 studies pointed out that being victims of bullying decreases self-esteem over time (Van Geel et al., 2018). Also, current meta-analyses have found a relationship between self-esteem and bullying victimization (Mullan et al., 2023) and cyberbullying (Marciano et al., 2020). In contrast, in relation to perpetration there are fewer papers, and meta-analyses indicate that the relationship between being a bullying perpetrator and low self-esteem is weak (Tsaousis, 2016) and the results are inconsistent (Tilindienė et al., 2018). Also, few studies have found that cyberaggression predicts a decrease in self-esteem one year later (Alonso & Romero, 2020). Therefore, more studies are needed in which both types of implications are measured, as aggressor and victim, in bullying and cyberbull-

ying with self-esteem given that both roles often coexist (Peter & Petermann, 2018), and where the age variable is controlled given the effect it has in the relationship between cyberbullying and self-esteem. Some meta-analyses have found that the association between the two variables decreases among older adolescents (Lei et al., 2020).

Empathy, aggression in bullying and cyberbullying and self-esteem

Some studies focus on the relation between empathy and self-esteem, but the number of these studies remains low as the systematic review by Silke et al. (2018) points out. Empathy is usually defined as understanding and sharing emotions of other people (Davis, 1994). Affective empathy consists of sharing emotions of other people while cognitive empathy consists of understanding emotions (Jolliffe & Farrington, 2006). Research suggests that high empathy has many benefits, including its relation to less antisocial behaviors such as bullying and cyberbullying (Zych et al., 2019).

A study conducted by Laible et al. (2004) focused on pathways to self-esteem in late adolescence. They found that high empathy was related to high self-esteem. Moreover, empathy was a mediator between peer attachment and self-esteem in females. For their part, Sa et al. (2019) found that high empathy was related to high self-esteem in first-year college students. Also, Ala et al. (2019) found, in their study, a relationship between self-esteem and emotional competence, which included empathy among its components, in high school adolescents. Meanwhile, Supervía et al. (2023) found through a cross-sectional study with adolescents that there is a relationship between these variables and that self-esteem is necessary to increase quality of life. However, this study did not distinguish between cognitive and emotional empathy. Guasp-Coll et al. (2020), with a sample of adolescents, found that cognitive empathy was inversely related to self-esteem, but not affective empathy. In contrast, Green et. (2018) conducted a study, also with adolescents, in which they found that self-esteem at both time 1 and time 2 was inversely related to affective empathy and not to cognitive empathy, with which there was no significant relationship. In other words, the results are not conclusive and more longitudinal work is required on the relationship between self-esteem and both types of empathy in a segregated manner. Likewise, it would be relevant to study these relationships at the same time as bullying and cyberbullying involvement, since previous work has indicated the relationships that coexist between all variables (Adiyanti et al., 2020; Martínez et al., 2020).

Current study

Based on the theory and empirical studies described above, the presents study examined whether victimization and perpetration in bullying and cyberbullying and empathy, cognitive, and affective, were cross-sectionally and longitudinally related to self-esteem in a unidirectional manner. It was hypothesized that: first, victimization in both bullying and cyberbullying will be inversely related to self-esteem in the cross-sectional and longitudinal study; second, perpetration in bullying and cyberbullying will also be inversely related to self-esteem cross-sectionally and longitudinally; third, empathy, affective and cognitive, will be directly and significantly related, cross-sectionally and longitudinally, to self-esteem.

Method

Participants

This study included a sample of 876 students (48.7% girls; $M = 14.91$, $SD = 1.71$) in Time 1, and 764 students (49.3% girls; $M = 14.8$, $SD = 1.69$) in Time 2, with an age range of 12–19 years. Participants were enrolled in two public schools in Córdoba (Spain) in Grades 1 to 4 of compulsory secondary education (12-16 years old) and grades 1 and 2 of upper secondary education (17-18 years old). All participants were enrolled in mainstream education in schools with average SES. The retention rate was 87.22%. Attrition between the two times was due to not attending class on the day of the second administration or not wanting to participate in the second time. Logistic regression was used to assess the representativeness of the analytical longitudinal sample compared to the total sample. The results indicate that there were no significant differences in the study variables at either time point ($p > .05$ in all cases).

Instruments

The Spanish version of the European Bullying Intervention Project Questionnaire (EBIPQ; Ortega-Ruiz et al., 2016) was used to measure bullying victimization and perpetration. It includes 14 items of which seven are focused on victimization and seven are focused on perpetration. It is answered on a Likert-type response scale that ranges from 0 to 4, (0 = *Never*, 1 = *Once or twice*, 2 = *Once or twice a month*, 3 = *About once a week*, and 4 = *More than once a week*). This questionnaire obtained excellent Cronbach´s alphas for victimization ($\alpha_{T1} = .84$, $\omega_{T1} = 0.86$; $\alpha_{T2} = .83$, $\omega_{T2} = 0.82$) and perpetration ($\alpha_{T1} = .80$, $\omega_{T1} = 0.84$; $\alpha_{T2} = .78$, $\omega_{T2} = 0.75$).

Cyberbullying was measured with the Spanish version of the *European Cyberbullying Intervention Project Questionnaire (ECIPQ)* scale (Ortega-Ruiz et al., 2016). It includes 22 items among which 11 are focused on cybervictimization and 11 are focused on cyberaggression. Items are answered on a five-point Likert scale that ranged from 0 to 4 (0 = *Never*, 1 = *Once or twice*, 2 = *Once or twice a month*, 3 = *About once a week*, and 4 = *More than once a week*). This instrument showed good Cronbach´s alphas for cybervictimization ($\alpha_{T1} = .86$, $\omega_{T1} = 0.86$; $\alpha_{T2} = .86$, $\omega_{T2} = 0.83$) and cyberperpetration ($\alpha_{T1} = .81$, $\omega_{T1} = 0.87$; $\alpha_{T2} = .83$, $\omega_{T2} = 0.77$).

Empathy was measured with *HIFDS questionnaire* (Bonino et al., 1998; Caravita et al., 2009) that measures cognitive and affective empathy. Affective empathy focuses on sharing other people´s feelings and it includes seven items (e.g., if someone

tells me a beautiful story, I feel as if this was happening to me). Cognitive empathy focuses on understanding other people´s feelings and it includes five items (e.g., I am able to recognize, before other children do, that other people´s feelings have changed). Items were answered on a four-point Likert-scale that ranged from 1 = *Never true* to 4 = *Always true*. Cronbach´s alphas were very good for both affective (α_{T1} = .79, ω_{T1} = 0.79; α_{T2} = .78, ω_{T2} = 0.83) and cognitive empathy (α_{T1} = .82, ω_{T1} = 0.82; α_{T2} = .83, ω_{T2} = 0.88).

Self-esteem was measured with the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965). It is a widely used instrument that includes ten items focused on different aspects of self-esteem. Items were answered on a four-point Likert scale that ranged from 1 = *Fully agree* to 4 = *Fully disagree*. For example "I feel that I have a number of good qualities" or "I feel that I'm a person of worth, at least on an equal plane with others". The values of Cronbach´s alpha for self-esteem questionnaire were good in both time 1 (α = .85, ω = 0.85) and time 2 (α = .84, ω = 0.83).

Design and procedure

This was a longitudinal study with two waves of data collection, three months apart. The sample was selected by convenience. The study was conducted as a part of a project funded and authorized by the Universidad de Córdoba as an educational research project implemented in the 2018/2019 school year. All the national and international ethical standards such as Declaration of Helsinki and personal data protection laws were followed. The project was approved by the Bioethics and Biosafety Committee of the University of "Blinded for Peer Review", specifically within the Ethics Committee on Human Research. Permissions to conduct the research project were granted by the school boards and informed consents were provided by the families of the participants. Before the data was collected, the aim of the study was explained to the participants. They were also informed of the anonymous, confidential, and voluntary nature of their participation.

Data analysis

Descriptive data were analyzed first, including means and standard deviations in the study variables. Mean differences by gender were analyzed with Student's *t*-test. Effect sizes were calculated according to Cohen (1988). Bivariate correlations were calculated with Pearson´s test. To discover unique predictors of self-esteem, linear regression analyses were run using self-esteem in time 1 and time 2 as a dependent variable and gender, age, empathy, bullying and cyberbullying as its predictors. The coding and data analyses were performed the SPSS software, version 25. The assumptions necessary for the validation of the model were checked before carrying out the regression analysis: normality, linearity, absence of homoscedasticity and absence of multicollinearity.

Results

Table 1 shows descriptive statistics for all the study variables in time 1 and time 2. These results include means and standard deviations for the total sample and a comparison between males and females. Boys reported higher score of self-esteem in comparison to girls at T1 (d = 0.25, 95% CI = [0.11, 0.38]) and T2 (d = 0.31, 95% CI = [0.18, 0.45]). Regarding empathy, both affective at T1 (d = 0.60, 95% CI = [0.46, 0.74]) and T2 (d = 0.74, 95% CI = [0.60, 0.88]) and cognitive at T1 (d = 0.39, 95% CI = [0.25, 0.52]) at T2 (d = 0.50, 95% CI = [0.37, 0.65])

Table 1

Means, standard deviations and gender comparisons in the study variables in Time 1 and Time 2

	Time 1					Time 2				
	Girls *M* (*SD*)	Boys *M* (*SD*)	Total *M* (*SD*)	*t*	*d* (95% CI)	Girls *M* (*SD*)	Boys *M* (*SD*)	Total *M* (*SD*)	*t*	*d* (95% CI)
Self-esteem	0.51 (0.58)	0.65 (0.55)	0.59 (0.56)	3.77***	0.25 (0.11, 0.38)	0.51 (0.57)	0.68 (0.51)	0.61 (0.55)	4.53***	0.31 (0.18, 0.45)
Affective Empathy	2.89 (0.58)	2.54 (0.59)	2.71 (0.61)	-8.82***	0.60 (0.46, 0.74)	2.80 (0.60)	2.34 (0.64)	2.56 (0.66)	-10.86***	0.74 (0.60, 0.88)
Cognitive empathy	3.19 (0.60)	2.94 (0.69)	3.06 (0.66)	-5.71***	0.39 (0.25, 0.52)	3.10 (0.63)	2.73 (0.81)	2.91 (0.75)	-7.38***	0.50 (0.37, 0.65)
Bullying victimization	0.43 (0.62)	0.49 (0.67)	0.46 (0.65)	-1.36	0.09 (0.04, 0.23)	0.35 (0.47)	0.31 (0.44)	0.32 (0.45)	-1.373	0.09 (0.05, 0.22)
Bullying perpetration	0.23 (0.42)	0.33 (0.53)	0.28 (0.48)	3.08**	0.21 (0.08, 0.34)	0.14 (0.23)	0.19 (0.32)	0.16 (0.28)	2.70**	0.18 (0.05, 0.31)
Cybe-rvictimization	0.17 (0.29)	0.15 (0.36)	0.16 (0.33)	-0.70	0.12 (0.07, 0.19)	0.10 (0.21)	0.08 (0.21)	0.09 (0.21)	-1.69	0.10 (0.04, 0.23)
Cyber-perpetration	0.08 (0.27)	0.11 (0.29)	0.10 (0.28)	1.43	0.14 (0.03, 0.24)	0.04 (0.10)	0.06 (0.20)	0.46 (0.140)	1.74	0.13 (0.01, 0.26)

Note. *M* = Arithmetic means; *SD* = Standard Deviations; *t* = Student-t-test; *d* = Cohen's d
* $p < .05$; ** $p < .01$; *** $p < .001$.

empathy were higher in girls in both time 1 and time 2. Bullying perpetration was higher in boys in both T1 (d = 0.21, 95% CI = [0.08, 0.34]) and T2 (d = 0.18, 95% CI = [0.05, 0.31]).

Table 2 shows Pearson correlations between different study variables with self-esteem, cross-sectionally and three months later. High cognitive empathy was related to high self-esteem cross-sectionally and longitudinally. Both bullying and cyberbullying perpetration and victimization were related to low self-esteem cross-sectionally and three months later.

Table 3 shows linear regression analysis including age, gender, affective and cognitive empathy, bullying and cyberbullying victimization and perpetration as predictors of self-esteem cross-sectionally and three months later. Both models are statistically significant cross-sectionally ($F_{(8,867)} = 19.58$; $p < .001$; $R^2 = .15$), and longitudinally ($F_{(8,755)} = 16.00$; $p < .001$; $R^2 = .15$).

It was found that younger age was related to lower self-esteem cross-sectionally (β = -.081, $p < .05$) and longitudinally (β = -.108, $p < .001$). Being male was related to higher self-esteem cross-sectionally (β = -.136, $p < .001$) and longitudinally (β = -.170, $p < .001$). High cognitive empathy was related to high self-esteem cross-sectionally (β = .197, $p < .001$) and three months later (β = .198, $p < .001$). High affective empathy was related to low self-esteem longitudinally (β = -.115, $p < .001$). Bullying victimization was related to low self-esteem cross-sectionally (β = -.235, $p < .001$) and three months later (β = -.090, $p < .001$). Bullying perpetration was related to low self-esteem three months later (β = -.090, $p < .05$). Cybervictimization was related to low self-esteem three months later (β = -.151, $p < .001$). The Durbin Watson test for the presence of autocorrelation in the regression residuals gave a value of 1.845.

Discussion

The current study focused on exploring the cross-sectional and longitudinal relationship between bullying, cyberbullying, empathy, and self-esteem. Although the number of studies focused on self-esteem in general is high (Agustiningsih et al., 2023), the importance of self-esteem in the mental health of young people and adolescents makes it necessary to continue examining, within schools, how these variables are combined in the context of peers. In this sense, meta-analyses indicate that victims of bullying and cyberbullying may have lower self-esteem over time, but the relationship with the perpetrators is not clear, nor is it clear with fundamental variables in the construc-

Table 2

Relations between empathy, bullying, cyberbullying in T1 and self-esteem in T1 and T2

	1	2	3	4	5	6	7
1.Self-esteem T1	-	-	-	-	-	-	-
2.Self-esteem T2	.71***	-	-	-	-	-	-
3.Affective empathy	-.02	-.06	-	-	-	-	-
4.Cognitive empathy	.13***	.1**	.58***	-	-	-	-
5.Bullying victimization	-.31***	-.23***	.06	-.01	-	-	-
6.Bullying perpetration	-.16***	-.17***	-.15***	-.07*	.43***	-	-
7.Cybervictimization	-.26***	-.27***	.01	-.04	.59***	.47***	-
8.Cyberperpetration	-.19***	-.16***	-.11**	-.05	.34***	.62***	.62***

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3

Linear regression analysis with gender, age, empathy, bullying, and cyberbullying in T1 as cross-sectional and longitudinal predictors of self-esteem in T1 and T2

	Cross-sectional T1				Longitudinal T2			
	β	*t*	*VIF*	*Tol.*	β	*t*	*VIF*	*Tolerance*
Age	-.08*	-2.53	1.04	.97	-.11**	-3.17	1.03	.97
Gender (female)	-.14***	-4.15	1.11	.9	-.17***	-4.77	1.12	.89
Affective empathy	-.08	-1.88	1.65	.61	-.12**	-2.6	1.71	.58
Cognitive empathy	.2***	5.13	1.51	.66	.2***	4.73	1.55	.65
Bullying victimization	-.24***	-5.84	1.66	.6	-.09*	-2.09	1.62	.62
Bullying perpetration	.01	.26	1.84	.55	-.09*	-2.01	1.77	.57
Cybervictimization	-.06	-1.29	2.19	.46	-.15**	-2.97	2.3	.43
Cyberperpetration	-.08	-1.67	2.15	.47	.01	.13	2.17	.46

Note. Variance Inflation Factor = VIF.
* $p < .05$; ** $p < .01$; *** $p < .001$.

tion of self-esteem, which in turn is linked to school aggressiveness, such as empathy, both in its cognitive and emotional component (Martínez et al., 2020).

The first hypothesis was partially accepted. Meta-analysis studies indicated that students who had been victimized through bullying or cyberbullying had lower self-esteem (Marciano et al., 2020; Mullan et al., 2023). However, in this work it only occurred longitudinally for the two forms of aggression measured, face-to-face and digital. In contrast, in the cross-sectional study only victims of bullying had lower self-esteem, but not victims of cyberbullying. It is likely that the characteristics of cyberspace, although they may be more pernicious because of the larger audience, the immediacy of the aggressions and the anonymity, require some time for the victims to become aware of the seriousness of the aggressions and therefore have a subsequent impact on their self-esteem. However, longitudinal studies with more time between measurements would be necessary to test this hypothesis.

The second hypothesis was not confirmed. Previous studies did not give solid results about whether bullying and cyberbullying perpetrators could have lower self-esteem or be affected in the short or medium term (Tsaousis, 2016). Specifically, in this work, no such relationship was found in the cross-sectional study. In contrast, in the longitudinal analysis it was found that bullying perpetration was associated three months later with low self-esteem. In this sense, it is possible that engaging in this type of immoral behavior leads perpetrators to have fewer friends and this leads to lower self-esteem (Harris & Orth, 2020). However, further work is needed to explore the impact of the network of friends or the quality of these. On the other hand, in cyberperpetration this relationship was not significant, unlike the study by Alonso and Romero (2020) who did find such a relationship. This may be due to the fact that in our study there was only a three-month difference between time 1 and time 2, while in Alonso and Romero (2020) there was a one-year difference. Therefore, our findings could reveal that the relationship between perpetration through the screen and low self-esteem is not immediate and requires more time for the people involved to become aware of their behaviors or the consequences of these behaviors.

The third hypothesis was partially confirmed. Previous studies indicated that in the educational setting a positive and significant relationship was found between empathy and self-esteem (Supervía et al., 2023). However, the authors did not distinguish between affective and cognitive empathy. In contrast, Guasp-Coll et al. (2023) did distinguish between both types of empathy but did not find such a relationship with more emotional empathy, but with cognitive empathy, although it was very weak. Our work found a positive relationship between cognitive empathy and self-esteem, so that the higher this type of more rational empathy, the higher the self-esteem. This result can be explained given the importance of understanding and comprehending the thoughts and emotions of others in maintaining friendships and in shaping a strong social support network among peers (Harris & Orth, 2020). However, for affective empathy the relationship was inverse, i.e., the higher the affective empathy, the lower the self-esteem. This finding may be a priori surprising, but it was already found in a study with adolescents (Green et al., 2018). Therefore, these results suggest that the emotional contagion that characterizes affective empathy may affect self-esteem. This may be because people who are especially sensitive to the emotions of others may absorb or internalize the suffering or problems of others. This emotional contagion, although beneficial to friendships, can lead to emotional exhaustion, stress, or a sense of excessive responsibility for the well-being of others, which can lead to neglect of one's own well-being and, in the long term, affect self-esteem (Dillon-Owens et al., 2022).

This study has some limitations. The unique use of self-reports could be favored with the incorporation of other instruments that allow obtaining qualitative information such as interviews or focus groups and that would complement these findings. Also, although longitudinal and cross-sectional relationships between self-esteem, empathy and bullying and cyberbullying were studied, there were only three months between time 1 and 2. Therefore, in future studies more data could be collected over longer periods of time, which would allow us to perform other more robust analyses that would allow us to explore prospective relationships such as cross-lagged models or network analysis. Finally, future projects could be carried out with more representative samples from other countries to confirm the results of the present study and the influence of the cultural component or, in the case of aggressors, to test the influence of other variables that favor the minimization of responsibility for this type of immoral behavior, such as moral disengagement strategies (Falla et al., 2023). Likewise, the mediating role of affective and cognitive empathy in the relationship between bullying and cyberbullying and self-esteem could be explored. Even testing whether self-esteem moderates or mediates the relationship between bullying and cyberbullying with empathy.

Conclusions

The current study found that bullying victimization and cyberbullying were longitudinally related to low self-esteem, although only victims of face-to-face aggression were also longitudinally related to low self-esteem. On the other hand, perpetration through cyberspace was neither cross-sectionally nor longitudinally related to low self-esteem, and only aggressiveness in bullying was associated with low self-esteem three months later. While high cognitive empathy is a good indicator of high self-esteem, however, higher affective empathy may lower self-esteem. Therefore, bullying and cyberbullying intervention programs should pay special attention to self-esteem and empathy. In this sense, it is necessary to integrate holistic programs where aspects related to mental health are worked on, given the consequences it has on the self-esteem of those involved, but also the ethics and moral criteria that should prevail in peer relationships for a more inclusive and peaceful school (Cabrera-Vázquez et al., 2022).

Author contributions

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Funding

This project was funded by the Directorate General for Innovation and Teacher Training of the "Junta de Andalucía, Education" (PIV-034/18) as an educational research project to be implemented in 2018.

Declaration of interests

The authors declare that there is no conflict of interests.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author.

References

Adiyanti, M. G., Nugraheni, A. A., Yuliawanti, R., Ragasukmasuci, L. B., & Maharani, M. (2020). Emotion regulation and empathy as mediators of self-esteem and friendship quality in predicting cyberbullying tendency in Javanese-Indonesian adolescents. *International Journal of Adolescence and Youth*, *25*(1), 251-263. https://doi.org/10.1080/02673843.2019.1614079

Agustiningsih, N., Yusuf, A., & Ahsan, A. (2023). Relationships among self-esteem, bullying, and cyberbullying in adolescents: A systematic review. *Journal of Psychosocial Nursing and Mental Health Services*, *62*(5), 1-7. https://doi.org/10.3928/02793695-20231013-01

Ala, P., Virginija, G., & Vaiva, R. (2019). Adolescent social emotional health, empathy, and self-esteem: Preliminary validation of the Lithuanian version of the SEHS-S questionnaire. *Psychology in Russia: State of the Art*, *12*(4), 196-209. https://doi.org/10.11621/pir.2019.0412

Alonso, C., & Romero, E. (2020). Estudio longitudinal de predictores y consecuencias del ciberacoso en adolescentes españoles. *Revista Internacional de Psicología Clínica y de la Salud*, *28*(1), 73-93.

Bonino, S., Lo Coco, A., & Tani, F. (1998). *Empatia. Processi di condivisione delle emozioni*. Giunti.

Cabrera-Vázquez, A., Romera, E. M., Ortega-Ruiz, R., Gil del Pino, M. C, & Falla, D. (2022). Desconexión moral cívica, empatía y actitudes de futuros docentes hacia la diversidad cultural. *Aula Abierta*, *51*(3), 285-292. https://doi.org/10.17811/rifie.51.3.2022.285-292

Calmeiro, L., & De Matos, M. C. (2016). Health assets and active lifestyles during preadolescence and adolescence: Highlights from the HBSC/WHO Health Survey and implications for health promotion. In M. Raab, P. Wylleman, R. Seiler, A.-M. Elbe & A. Hatzigeorgiadis (Eds.), *Sport and exercise psychology research: From theory to practice* (pp. 433-460). Elsevier Academic Press. https://doi.org/10.1016/B978-0-12-803634-1.00020-0

Caravita, S. C. S., Di Blasio, P., & Salmivalli, C. (2009). Unique and interactive effects of empathy and social status on involvement in bullying. *Social Development*, *18*(1), 140-163. https://doi.org/10.1111/j.1467-9507.2008.00465.x

Choi, B., & Park, S. (2021). Bullying perpetration, victimization, and low self-esteem: Examining their relationship over time. *Journal of Youth and Adolescence*, *50*(4), 739-752. https://doi.org/10.1007/s10964-020-01379-8

Coelho, V. A., Bear, G. G., & Brás, P. (2020). A multilevel analysis of the importance of school climate for the trajectories of students' self-concept and self-esteem throughout the middle school transition. *Journal of Youth and Adolescence*, *49*(9), 1793-1804. https://doi.org/10.1007/s10964-020-01245-7

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum.

Davis, M. H. (1994). *Empathy: A social psychological approach*. Westview Press.

Dillon-Owens, C., Findley-Van Nostrand, D., Ojanen, T., Buchholz, C., & Valdes, O. (2022). Early adolescent cognitive and affective empathy. *Social Psychology*, *53*(5), 292-302. https://doi.org/10.1027/1864-9335/a000499

Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, *82*(1), 405-432. https://doi.org/10.1111/j.1467-8624.2010.01564.x

Eisenberg, N., & Fabes, R. A. (1998). Prosocial development. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 701-778). Wiley.

Extremera, N., Quintana-Orts, C., Mérida-López, S., & Rey, L. (2018). Cyberbullying victimization, self-esteem and suicidal ideation in adolescence: Does emotional intelligence play a buffering role? *Frontiers in Psychology*, *9*, Article 367. https://doi.org/10.3389/fpsyg.2018.00367

Falla, D., Ortega-Ruiz, R., & Romera, E. M. (2023). Minimizing responsibility in the aggressive dynamics of bullying and its impact on other strategies of moral disengagement: A longitudinal study. *Current Psychology*, *42*(36), 32512-32523. https://doi.org/10.1007/s12144-022-04229-x

Green, L. M., Missotten, L., Tone, E. B., & Luyckx, K. (2018). Empathy, depressive symptoms, and self-esteem in adolescence: The moderating role of the mother-adolescent relationship. *Journal of Child and Family Studies*, *27*, 3964-3974. https://doi.org/10.1007/s10826-018-1216-z

Guasp-Coll, M., Navarro-Mateu, D., Giménez-Espert, M. D. C., & Prado-Gascó, V. J. (2020). Emotional intelligence, empathy, self-esteem, and life satisfaction in Spanish adolescents: Regression vs. QCA models. *Frontiers in Psychology*, *11*, Article 561858. https://doi.org/10.3389/fpsyg.2020.01629

Harris, M. A., & Orth, U. (2020). The link between self-esteem and social relationships: A meta-analysis of longitudinal studies. *Journal of Personality and Social Psychology*, *119*(6), 1459-1477. https://doi.org/10.1037/pspp0000265

Ho, H. Y., Chen, Y. L., & Yen, C. F. (2022). Moderating effects of friendship and family support on the association between bullying victimization and perpetration in adolescents. *Journal of Interpersonal Violence*, *37*(7-8), NP4640-NP4659. https://doi.org/10.1177/0886260520985503

Hurtado-Mellado, A., & Rodríguez-Hidalgo, A. J. (2024). Homophobic bullying, traditional bullying, cyberbullying, and health-related quality of life (HRQoL) in adolescents according to their sexual

orientation. *Behavioral Sciences*, *14*(8), Article 729. https://doi.org/10.3390/bs14080729

Jenkins, A. C. (2019). Empathy affects tradeoffs between life's quality and duration. *PLoS ONE*, *14*(10), Article e0221652. https://doi.org/10.1371/journal.pone.0221652

Jolliffe, D., & Farrington, D. P. (2006). Examining the relationship between low empathy and bullying. *Aggressive Behavior*, *32*(6), 540-550. https://doi.org/10.1002/ab.20154

Laible, D. J., Carlo, G., & Roesch, S. C. (2004). Pathways to self-esteem in late adolescence: The role of parent and peer attachment, empathy, and social behaviours. *Journal of Adolescence*, *27*(6), 703-716. https://doi.org/10.1016/j.adolescence.2004.05.005

Leary, M. R., & Baumeister, R. F. (2000). The nature and function of self-esteem: Sociometer theory. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (vol. 32, pp. 1-62). Academic Press.

Lei, H., Mao, W., Cheong, C. M., Wen, Y., Cui, Y., & Cai, Z. (2020). The relationship between self-esteem and cyberbullying: A meta-analysis of children and youth students. *Current Psychology*, *39*, 830-842. https://doi.org/10.1007/s12144-019-00407-6

Li, C., Wang, P., Martin-Moratinos, M., Bella-Fernández, M., & Blasco-Fontecilla, H. (2022). Traditional bullying and cyberbullying in the digital age and its associated mental health problems in children and adolescents: A meta-analysis. *European Child & Adolescent Psychiatry*, *33*, 2895-2909. https://doi.org/10.1007/s00787-022-02128-x

Marciano, L., Schulz, P. J., & Camerini, A. L. (2020). Cyberbullying perpetration and victimization in youth: A meta-analysis of longitudinal studies. *Journal of Computer-Mediated Communication*, *25*(2), 163-181. https://doi.org/10.1093/jcmc/zmz031

Martínez, J., Rodríguez-Hidalgo, A. J., & Zych, I. (2020). Bullying and cyberbullying in adolescents from disadvantaged areas: Validation of questionnaires; prevalence rates; and relationship to self-esteem, empathy and social skills. *International Journal of Environmental Research and Public Health*, *17*(17), Article 6199. https://doi.org/10.3390/ijerph17176199

Menesini, E., & Salmivalli, C. (2017). Bullying in schools: The state of knowledge and effective interventions. *Psychology, Health & Medicine*, *22*(1), 240-253. https://doi.org/10.1080/13548506.2017.1279740

Modecki, K. L., Minchin, J., Harbaugh, A. G., Guerra, N. G., & Runions, K. C. (2014). Bullying prevalence across contexts: A meta-analysis measuring cyber and traditional bullying. *Journal of Adolescent Health*, *55*(5), 602-611. https://doi.org/10.1016/j.jadohealth.2014.06.007

Mullan, V. M., Golm, D., Juhl, J., Sajid, S., & Brandt, V. (2023). The relationship between peer victimisation, self-esteem, and internalizing symptoms in adolescents: A systematic review and meta-analysis. *PLoS ONE*, *18*(3), Article e0282224. https://doi.org/10.1371/journal.pone.0282224

Nguyen, D. T., Wright, E. P., Dedding, C., Pham, T. T., & Bunders, J. (2019). Low self-esteem and its association with anxiety, depression, and suicidal ideation in vietnamese secondary school students: A cross-sectional study. *Frontiers in Psychiatry*, *10*, Article 698. https://doi.org/10.3389/fpsyt.2019.00698

Núñez, A., Ávarez-García, D., & Pérez-Fuentes, M. C. (2021). Anxiety and self-esteem in cyber-victimization profiles of adolescents. *Comunicar*, *29*(67), 43-54. https://doi.org/10.3916/C67-2021-04

Olweus, D. (1999). Norway. In P. K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano & P. Slee (Eds.), *The Nature of School Bullying: A Cross-National Perspective* (pp. 28-48). Routledge.

Ortega-Ruiz, R. (2020). Educación para el Desarrollo Sostenible: del proyecto cosmopolita a la ciberconvivencia. *Investigación en la Escuela, 100,* 11-22. https://doi.org/10.12795/IE.2020.i100.02

Ortega-Ruiz, R., Del Rey, R., & Casas, J. A. (2016). Evaluar el bullying y el cyberbullying validación española del EBIP-Q y del ECIP-Q. *Psicologia Educativa*, *22*(1), 71-79. https://doi.org/10.1016/j.pse.2016.01.004

Orth, U., & Robins, R. W. (2019). Development of self-esteem across the lifespan. In D. P. McAdams, R. L. Shiner & J. L. Tackett (Eds.), *Handbook of personality development* (pp. 328-344). Guilford Press.

Palermiti, A. L., Servidio, R., Bartolo, M. G., & Costabile, A. (2017). Cyberbullying and self-esteem: An Italian study. *Computers in Human Behavior*, *69*, 136-141. https://doi.org/10.1016/j.chb.2016.12.026

Peter, I. K., & Petermann, F. (2018). Cyberbullying: A concept analysis of defining attributes and additional influencing factors. *Computers in Human Behavior*, *86*, 350-366. https://doi.org/10.1016/j.chb.2018.05.013

Portt, E., Person, S., Person, B., Rawana, E., & Brownlee, K. (2020). Empathy and positive aspects of adolescent peer relationships: A scoping review. *Journal of Child and Family Studies*, *29*, 2416-2433. https://doi.org/10.1007/s10826-020-01753-x

Rodríguez-Hidalgo, A. J., Solera, E., & Calmaestra, J. (2018). Psychological predictors of cyberbullying according to ethnic-cultural origin in adolescents: A national study in Spain. *Journal of Cross-Cultural Psychology*, *49*(10), 1506-1522. https://doi.org/10.1177/0022022118795283

Rosenberg, M. (1965). *Society and the adolescent self-imageNo Title*. Princeton University Press.

Sa, B., Ojeh, N., Majumder, M. A. A., Nunes, P., Williams, S., Rao, S. R., & Youssef, F. F. (2019). The relationship between self-esteem, emotional intelligence, and empathy among students from six health professional programs. *Teaching and Learning in Medicine*, *31*(5), 536-543. https://doi.org/10.1080/10401334.2019.1607741

Silke, C., Brady, B., Boylan, C., & Dolan, P. (2018). Factors influencing the development of empathy and pro-social behaviour among adolescents: A systematic review. *Children and Youth Services Review*, *94*, 421-436. https://doi.org/10.1016/j.childyouth.2018.07.027

Smith, P., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippett, N. (2008). Cyberbullying: Its nature and impact in secondary school pupils. *Journal of Child Psychology and Psychiatry*, *49*(4), 376-385. https://doi.org/10.1111/j.1469-7610.2007.01846.x

Supervía, P. U., Bordás, C. S., Robres, A. Q., Blasco, R. L., & Cosculluela, C. L. (2023). Empathy, self-esteem and satisfaction with life in adolescent. *Children and Youth Services Review*, *144*, Article 106755. https://doi.org/10.1016/j.childyouth.2022.106755

Tilindienė, I., Rastauskienė, G. J., Gaižauskienė, A., & Stupuris, T. (2018). Relationship between 12–16-year-old athletes' self-esteem, self-confidence and bullying. *Baltic Journal of Sport and Health Sciences*, *2*(85). https://doi.org/10.33607/bjshs.v2i85.288

Tsaousis, I. (2016). The relationship of self-esteem to bullying perpetration and peer victimization among schoolchildren and adolescents: A meta-analytic review. *Aggression and Violent Behavior*, *31*, 186-199. https://doi.org/10.1016/j.avb.2016.09.005

Van Geel, M., Goemans, A., Zwaanswijk, W., Gini, G., & Vedder, P. (2018). Does peer victimization predict low self-esteem, or does low self-esteem predict peer victimization? Meta-analyses on longitudinal studies. *Developmental Review*, *49*, 31-40. https://doi.org/10.1016/j.dr.2018.07.001

Zych, I., Farrington, D., & Ttofi, M. (2019). Protective factors against bullying and cyberbullying: A systematic review of meta-analyses. *Aggression and Violent Behavior*, *45*, 4-19. https://doi.org/10.1016/j.avb.2018.06.008

Zych, I., Ortega-Ruiz, R., & Marín-López, I. (2016). Cyberbullying: a systematic review of research, its prevalence and assessment issues in Spanish studies. *Psicología Educativa*, *22*(1), 5-18. https://doi.org/10.1016/j.pse.2016.03.002

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Bullying, cyberbullying, and empathy as longitudinal predictors of self-esteem
Acoso, ciberacoso y empatía como predictores longitudinales de la autoestima

Psychology, Society & Education
vol. 16, no. 3, p. 63 - 71, 2024
Universidad de Córdoba,
ISSN: 2171-2085

DOI: https://doi.org/10.21071/psye.v16i3.16243