

A Pilot Evaluation of a Brief School-Based Bullying Prevention Programme in Secondary Education: Changes in Bullying, Cyberbullying and Self-Esteem

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Article

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Abstract

Bullying and cyberbullying remain major challenges to school climate and adolescent wellbeing. Although school-based prevention programmes are widely recommended, evidence regarding the effectiveness of brief psychoeducational interventions remains limited.

This study evaluated the effects of a brief school-based psychoeducational intervention designed to reduce bullying and cyberbullying while promoting self-esteem among secondary school students.

An exploratory pilot study using a one-group pretest–posttest design was conducted with 13 Year 9 students (aged 13–14 years). The seven-week intervention comprised five sessions focusing on bullying and cyberbullying awareness, empathy development, active bystander behaviour, conflict resolution, prosocial behaviour, and self-reflection. Participants completed the Rosenberg Self-Esteem Scale (RSES), the European Bullying Intervention Project Questionnaire (EBIP-Q), and the European Cyberbullying Intervention Project Questionnaire (ECIP-Q).

Descriptive analyses showed reductions across all bullying- and cyberbullying-related variables following the intervention, with the largest effect sizes observed for face-to-face victimisation and perpetration, although these differences did not reach statistical significance. Significant positive associations were found between traditional bullying and cyberbullying, whereas self-esteem remained independent of the bullying-related variables.

Although preliminary, these findings indicate favourable descriptive trends following the intervention, particularly for face-to-face bullying victimisation and perpetration. However, the absence of statistically significant differences, the small sample size, the lack of a control group, and the inability to match individual pretest and posttest responses prevent causal conclusions regarding intervention effectiveness. Further research using larger samples, longitudinal designs, and controlled study designs is needed to determine the effectiveness of this type of intervention.

Introduction

Bullying and cyberbullying remain persistent threats to school climate and adolescent wellbeing (Espelage & Swearer, 2008; Holt et al., 2015; Kasturiratna et al., 2025). Bullying is traditionally defined as repeated aggression occurring within an imbalance of power (Olweus, 1993; Ortega-Ruiz et al., 2016), but it is increasingly understood as a socioecological phenomenon shaped by peer dynamics and school climate (Figueroa & Pierce, 2026; Salmivalli et al., 1996; Waasdorp et al., 2011). Classmates may reinforce, ignore or interrupt aggression, while perceptions of safety, belonging, fairness and teacher support influence its maintenance and prevention (Cunningham et al., 2010; Hontañón et al., 2026; Salmivalli et al., 1996; Waasdorp et al., 2011).

Bullying may involve physical, verbal, psychological or relational aggression, including less visible behaviours such as social exclusion, friendship manipulation and rumour spreading, which adults may overlook or misinterpret as playful banter (Betts et al., 2026; Crothers & Kolbert, 2004; González Delgado et

al., 2026; Lund et al., 2012; Monks et al., 2016; Olweus, 1993; Ortega-Ruiz et al., 2016; Waasdorp et al., 2011). Digital technologies have extended peer aggression beyond school. Cyberbullying shares core characteristics with face-to-face bullying but is distinguished by anonymity, continuous accessibility and persistent digital content (Monks et al., 2016; Ortega-Ruiz & Zych, 2016; Zych et al., 2016). Both forms frequently overlap because they share individual and contextual risk factors (Antoniadou et al., 2016; Baldry et al., 2016; Saladrigas Menes et al., 2026; Zych et al., 2016).

Bullying and cyberbullying are associated with psychological distress, social withdrawal and academic difficulties, while cyberbullying may elicit particularly intense emotional and psychophysiological responses (Caravita et al., 2016; Cuadros Jiménez & León-del Barco, 2026; Espelage & Swearer, 2008; Miskimon & Jenkins, 2025). These findings support coordinated school-based responses involving students, teachers and families that promote emotional education, positive school climate and responsible digital behaviour (Cunningham et al., 2010; Del Rey & Ortega, 2001; Holt et al., 2013; Ortega-Ruiz & Zych, 2016; Tirado Morueta & Conde Vélez, 2016; Torrecilla et al., 2016). However, evidence-based practices remain inconsistently implemented, and perceptions of effective intervention differ across members of the educational community (Crothers & Kolbert, 2004; Cunningham et al., 2010; Lund et al., 2012; Tzani et al., 2026). Further research is therefore needed to evaluate interventions that address both forms of aggression while strengthening students' psychological resources.

Psychological consequences of bullying and cyberbullying

Bullying and cyberbullying are associated with anxiety, depressive symptoms, loneliness, social withdrawal and diminished feelings of safety and belonging (Espelage & Swearer, 2008; Garaigordobil & Oñederra, 2010; Hontañón et al., 2026; Miskimon & Jenkins, 2025). These consequences are particularly relevant during adolescence, when peer relationships and social competence play a central role in identity development and psychological adjustment (Gómez-López et al., 2019; Romera et al., 2022; Viejo et al., 2018). Cyberbullying may intensify psychological harm because persistent content and continuous accessibility make victimisation difficult to escape, while overlapping offline and online victimisation may increase cumulative vulnerability (Antoniadou et al., 2016; Baldry et al., 2016; Caravita et al., 2016; Monks et al., 2016; Ortega-Ruiz & Zych, 2016; Saladrigas Menes et al., 2026; Zych et al., 2016).

Victimisation may undermine self-esteem, interpersonal trust, psychological wellbeing and school belonging, while emotional distress and deteriorating peer relationships may impair concentration, engagement and academic performance (Cuadros Jiménez & León-del Barco, 2026; Gómez-López et al., 2019; González Delgado et al., 2026; Miskimon & Jenkins, 2025; Rosenberg, 1965; Viejo et al., 2018; Waasdorp et al., 2011; Wachs et al., 2016). These effects highlight the importance of assessing face-to-face and online bullying with validated instruments (Álvarez-Marín et al., 2022; Ortega-Ruiz et al., 2016) and of addressing the relational and psychological conditions surrounding aggression. Supportive peer relationships, positive teacher–student interactions and a fair school climate may buffer the effects of victimisation, whereas inconsistent or punitive responses may discourage disclosure (Crothers & Kolbert, 2004; Cunningham et al., 2010; Figueroa & Pierce, 2026; Lund et al., 2012; Waasdorp et al., 2011).

Preventive and restorative approaches should therefore strengthen wellbeing and social connectedness while repairing relationships and reducing aggression (Fält-Weckman et al., 2024; Holt et al., 2013; Tzani et al., 2026).

Self-esteem, psychological wellbeing and emotional competencies

Self-esteem, defined as an individual's overall evaluation of self-worth, is a key component of adolescent psychosocial development and promotes resilience and adaptive social functioning, whereas low self-esteem increases emotional vulnerability and may intensify the effects of negative peer experiences (Garaigordobil & Oñederra, 2010; Romera et al., 2022; Rosenberg, 1965; Viejo et al., 2018). The relationship between self-esteem and bullying is reciprocal: repeated victimisation may erode self-worth, while low self-esteem may reduce adolescents' confidence to seek help or respond effectively to aggression (Espelage & Swearer, 2008; Wachs et al., 2016). In addition, because face-to-face and online bullying frequently overlap, these vulnerabilities may extend across both contexts (Antoniadou et al., 2016; Baldry et al., 2016; Wachs et al., 2016; Zych et al., 2016).

Psychological wellbeing includes self-acceptance, positive relationships, autonomy and personal growth and is strongly influenced by interpersonal relationships during adolescence (Gómez-López et al., 2019; Viejo et al., 2018). Bullying and exclusion may undermine wellbeing and school belonging, whereas supportive relationships, shared values and a positive school climate foster personal, social and academic development (Azkarate-Morales & Bartau-Rojas, 2026; Cuadros Jiménez & León-del Barco, 2026; Felip Jacas & Teixidó Saballs, 2019; Figueroa & Pierce, 2026; Gómez-López et al., 2019; González Delgado et al., 2026; Hontañón et al., 2026; Tirado Morueta & Conde Vélez, 2016; Waasdorp et al., 2011).

Emotional competencies represent another important protective factor, encompassing emotional awareness, regulation, relationship skills and constructive conflict management (Bisquerra Alzina & Pérez Escoda, 2007). Emotional education promotes empathy, self-awareness and adaptive decision-making, while stronger emotional competence is associated with lower anxiety, reduced involvement in school violence and better coping with online aggression (Caravita et al., 2016; Dueñas Buey, 2002; Pantoja et al., 2026; Romera et al., 2022; Ros Morente et al., 2024). Together, self-esteem, psychological wellbeing and emotional competencies constitute complementary protective resources that should be evaluated alongside bullying and cyberbullying outcomes using validated instruments (Álvarez-Marín et al., 2022; Ortega-Ruiz et al., 2016).

Educational intervention as a preventive strategy

The complex nature of bullying and cyberbullying requires educational interventions that move beyond disciplinary responses and adopt a socioecological perspective involving the whole school community (Del Rey & Ortega, 2001; Espelage & Swearer, 2008; Holt et al., 2013; Salmivalli et al., 1996; Tirado Morueta & Conde Vélez, 2016; Waasdorp et al., 2011). Effective programmes combine emotional education, social

and conflict-resolution skills, clear behavioural expectations and meaningful student participation (Azkarate-Morales & Bartau-Rojas, 2026; Bisquerra Alzina & Pérez Escoda, 2007; Dueñas Buey, 2002; Pantoja et al., 2026; Romera et al., 2022; Ros Morente et al., 2024; Torrecilla et al., 2016). Because bullying is fundamentally a group process, interventions should also empower bystanders to support victims and actively contribute to prevention (Biernesser et al., 2023; Crothers & Kolbert, 2004; Cunningham et al., 2010; Hontañón et al., 2026; Salmivalli et al., 1996).

Programme effectiveness also depends on teachers' ability to recognise subtle forms of aggression and adapt prevention strategies to their educational context (Betts et al., 2026; Felip Jacas & Teixidó Saballs, 2019; González Delgado et al., 2026; Holt et al., 2013; Lund et al., 2012). As face-to-face bullying and cyberbullying frequently coexist, prevention should address both contexts by promoting emotional regulation, responsible digital behaviour and appropriate help-seeking (Antoniadou et al., 2016; Baldry et al., 2016; Caravita et al., 2016; Monks et al., 2016; Ortega-Ruiz & Zych, 2016; Zych et al., 2016). Validated instruments such as the EBIP-Q and ECIP-Q facilitate the evaluation of intervention outcomes across both settings (Álvarez-Marín et al., 2022; Ortega-Ruiz et al., 2016).

Recent evidence also supports the integration of positive psychology and restorative practices to strengthen resilience, interpersonal relationships, and personal responsibility while repairing harm caused by peer conflict (Fält-Weckman et al., 2024; Tzani et al., 2026). Such interventions may promote self-esteem, psychological wellbeing, and academic adjustment while reducing aggressive behaviour (Gómez-López et al., 2019; Miskimon & Jenkins, 2025; Viejo et al., 2018; Wachs et al., 2016). However, evidence regarding the effectiveness of brief psychoeducational interventions remains limited. The present pilot study therefore examined changes following a brief school-based intervention designed to reduce face-to-face bullying and cyberbullying while promoting self-esteem among secondary school students. Given the exploratory nature of this pilot study, we expected to observe a favourable trend characterised by reductions in bullying and cyberbullying victimisation and perpetration, together with improvements in self-esteem.

Method

Study design

An exploratory pilot study with a one-group pretest–posttest design was conducted to examine changes associated with a brief psychoeducational intervention designed to reduce bullying and cyberbullying while promoting self-esteem among secondary school students. Participants completed a set of standardised questionnaires immediately before and after the intervention, allowing comparisons of group-level distributions across the two assessment points.

Participants

The study included 13 Year 9 students (aged 13–14 years) enrolled at a small international secondary school in Catalonia, Spain. All eligible students from the class participated in the intervention as part of

their regular school activities, and the entire cohort completed both the pre-intervention and post-intervention assessments.

Written informed consent was obtained from the parents or legal guardians of all participating minors, and the study was authorised by the school administration. Ethical approval was granted by the Research Ethics Committee of Universidad Internacional de La Rioja (UNIR), Spain (Approval No. 148_2026). The study was conducted in accordance with the ethical principles of the Declaration of Helsinki and applicable ethical standards for research involving minors. To protect participants' privacy, all questionnaires were completed anonymously and handled confidentially throughout the study. Consequently, individual pretest and posttest responses could not be matched for statistical analysis.

Measures

Self-esteem was assessed using the Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965), one of the most widely used measures of global self-esteem. The scale consists of 10 items rated on a four-point Likert scale ranging from *strongly agree* to *strongly disagree*. Five items are positively worded and five are negatively worded and require reverse scoring. Total scores range from 10 to 40, with higher scores indicating greater self-esteem.

Face-to-face bullying was assessed using the European Bullying Intervention Project Questionnaire (EBIP-Q) (Ortega-Ruiz et al., 2016), a validated self-report instrument for adolescents. The questionnaire comprises 14 items equally distributed across two dimensions: victimisation and perpetration. Items assess physical, verbal and relational bullying, including behaviours such as physical aggression, insults, threats, social exclusion and rumour spreading. Responses are provided on a five-point frequency scale, with higher scores indicating greater involvement in bullying.

Cyberbullying was assessed using the European Cyberbullying Intervention Project Questionnaire (ECIP-Q) (Ortega-Ruiz et al., 2016). The questionnaire includes 22 items measuring cybervictimisation and cyberperpetration across a range of online behaviours occurring through social networking sites, instant messaging services and other digital platforms. Responses are recorded on the same five-point frequency scale as the EBIP-Q, with higher scores indicating greater involvement in cyberbullying.

Procedure

The study was conducted during the third term of the 2025–2026 academic year. Baseline data were collected on 17 April 2026, when participants completed the Rosenberg Self-Esteem Scale (RSES), the European Bullying Intervention Project Questionnaire (EBIP-Q) and the European Cyberbullying Intervention Project Questionnaire (ECIP-Q). Following completion of the intervention, the same instruments were re-administered on 5 June 2026.

Between both assessment points, students participated in a five-session intervention delivered over seven weeks. The programme was designed to increase awareness of bullying and cyberbullying, promote

empathy and prosocial behaviour, encourage active bystander responses, strengthen conflict-resolution skills and enhance self-esteem through structured reflective activities. Each session lasted approximately 60 minutes and was delivered by the classroom teacher during regular school hours. All sessions were completed as planned. An overview of the intervention is presented in Table 1.

The programme combined brief theoretical input with experiential and reflective learning activities. Sessions included guided discussions, short educational videos, myth-debunking activities, role-play exercises and individual reflection aimed at promoting respectful relationships, responsible behaviour and a positive school climate.

Table 1

Summary of the intervention sessions implemented during the third term of the 2025–2026 academic year

Session	Learning objective	Main activities	Duration
1. Understanding bullying	Increase students' awareness of bullying, its characteristics and its consequences	Brief theoretical introduction to bullying; screening of the short film <i>Silent</i> ; individual reflective writing; group discussion on myths and misconceptions about bullying.	50–60 min
2. Understanding cyberbullying	Identify the defining characteristics of cyberbullying and promote responsible digital behaviour.	Brief theoretical introduction to cyberbullying; screening of the short film <i>Are You Okay?</i> ; individual reflection; group discussion on myths and misconceptions about cyberbullying.	60 min
3. From bystander to upstander	Promote supportive behaviours towards victims and encourage bystanders to take responsibility for intervening.	Introduction to the concepts of bystander and upstander; development of a personal <i>Bystander Action Plan</i> ; guided reflection on strategies for supporting victims and responding to bullying.	60 min
4. Role-playing and conflict resolution	Develop empathy and practise effective intervention strategies in situations involving bullying and cyberbullying.	Role-playing activities involving bullying and cyberbullying scenarios; enactment of different roles (victim, perpetrator, bystander and upstander); guided reflection on emotions, consequences and alternative responses.	60 min
5. Letter to my future self	Enhance self-esteem, encourage self-reflection, and strengthen students' commitment to a positive school climate.	Individual writing of a letter to the future self; reflection on personal values, goals, strengths, and individual contributions to a positive school climate.	60 min

The intervention was grounded in the principles of emotional education, positive school climate, and bullying prevention. The activities integrated cognitive (understanding the nature and dynamics of bullying), emotional (empathy, self-reflection, and self-esteem), and behavioural (intervention strategies, defending victims, and conflict resolution) components, in line with evidence-based recommendations for

preventing bullying and promoting adolescent well-being (Bisquerra & Pérez-Escoda, 2007; Ros Morente et al., 2024; Tirado & Conde, 2016).

Data analysis

Data were analysed using jamovi (Version 2.6.4). Descriptive statistics (mean, median, standard deviation, minimum, and maximum) were calculated for all study variables. The normality of score distributions was assessed using the Shapiro–Wilk test. Given the small sample size and the non-normal distribution of several variables, non-parametric statistical procedures were used throughout the analyses.

As data were collected anonymously, individual pretest and posttest responses could not be matched. Consequently, comparisons between the two assessment points were conducted at the cohort level using the Mann–Whitney U test for exploratory and descriptive purposes. Rank-biserial correlation coefficients were calculated as measures of effect size for these comparisons.

Associations between the study variables were examined using Spearman's rank-order correlation coefficient (Spearman's ρ). All statistical tests were two-tailed, and statistical significance was set at $p < .05$.

Results

At baseline, participants reported higher levels of face-to-face bullying than cyberbullying, whereas self-esteem scores indicated moderate levels of perceived self-worth. Following the intervention, mean scores decreased across all bullying and cyberbullying measures, while self-esteem remained relatively stable. Descriptive statistics for the pre-intervention and post-intervention assessments are presented in Table 2.

Table 2 Descriptive statistics of bullying, cyberbullying and self-esteem scores at pretest and posttest								
Variable	Pre M (SD)	Median	Post M (SD)	Median	Shapiro Wilk p (Pre/Post)	U	p	Rank-biserial correlation
Bullying victimisation	8.46 (5.50)	8	5.39 (5.61)	4	.735 / .015	53.0	.111	.373
Bullying perpetration	5.23 (4.21)	4	2.92 (3.01)	2	.195 / .064	55.5	.140	.343
Cybervictimisation	2.85 (3.51)	1	1.54 (1.71)	1	.008 / .005	69.5	.438	.178
Cyberperpetration	0.77 (1.24)	0	0.54 (1.20)	0	< .001 / < .001	72.5	.470	.142
Self-esteem	17.08 (6.59)	17	16.39 (6.74)	15	.232 / .474	77.0	.719	.089

Descriptive statistics, Shapiro–Wilk normality tests, and comparisons between pretest and posttest scores are presented in Table 2. The Shapiro–Wilk test indicated that several variables, particularly cybervictimisation and cyberperpetration, deviated significantly from normality. Together with the small sample size ($n = 13$), these findings supported the use of non-parametric statistical procedures.

Pre-intervention and post-intervention group distributions were compared using the Mann–Whitney U test. Although none of the comparisons reached statistical significance (all $p > .05$), mean scores decreased across all bullying and cyberbullying measures following the intervention. The largest reductions and corresponding moderate effect sizes were observed for bullying victimisation and bullying perpetration, whereas cybervictimisation and cyberperpetration showed smaller effects. Self-esteem remained relatively stable across both assessment points. Overall, the descriptive findings suggest a consistent trend towards lower levels of bullying and cyberbullying following the intervention. However, given the small sample size and the exploratory nature of the study, these findings should be interpreted with caution and regarded as preliminary.

Table 3
Spearman's rank-order correlations among bullying, cyberbullying, and self-esteem variables

		Bull Vic.	Bull Agr.	Cyber Vic	Cyber agr.	Self-Esteem
Bull Vic.	Spearman's rho	—				
	df	—				
	p-value	—				
	N	—				
Bull Agr.	Spearman's rho	0.826***	—			
	df	11	—			
	p-value	< .001	—			
	N	13	—			
Cyber Vic	Spearman's rho	0.823***	0.669*	—		
	df	11	11	—		
	p-value	< .001	0.012	—		
	N	13	13	—		
Cyber agr.	Spearman's rho	0.448	0.611*	0.396	—	
	df	11	11	11	—	
	p-value	0.125	0.027	0.181	—	
	N	13	13	13	—	
Self-Esteem	Spearman's rho	0.117	-0.053	-0.100	0.140	—
	df	11	11	11	11	—
	p-value	0.704	0.864	0.745	0.649	—
	N	13	13	13	13	—
Note. * $p < .05$, ** $p < .01$, *** $p < .001$						

Spearman's rank-order correlations among the study variables are presented in Table 3. The analyses revealed several significant positive associations between bullying and cyberbullying variables. Bullying victimisation was strongly associated with bullying perpetration ($\rho = .826, p < .001$) and cybervictimisation ($\rho = .823, p < .001$). Bullying perpetration was also positively associated with cybervictimisation ($\rho = .669, p = .012$) and cyberperpetration ($\rho = .611, p = .027$). In contrast, the association between cybervictimisation and cyberperpetration was not statistically significant ($\rho = .396, p = .181$). Likewise, self-esteem was not significantly associated with any of the bullying or cyberbullying variables (all $p > .05$).

Discussion

The present study evaluated the effects of a brief school-based psychoeducational intervention designed to reduce bullying and cyberbullying while enhancing self-esteem among secondary school students. Although no statistically significant differences were found between the pretest and posttest assessments, descriptive results indicated reductions across all bullying- and cyberbullying-related variables, with the largest effect sizes observed for face-to-face bullying victimisation and perpetration. Overall, the pattern of findings supports the exploratory expectations of the study, suggesting that even brief psychoeducational interventions may promote favourable descriptive trends towards reducing peer aggression within the school context.

The reductions observed in bullying victimisation and perpetration are consistent with previous research showing that interventions combining emotional education, empathy development, conflict resolution, reflective learning and active student participation can contribute to improving school climate and reducing aggressive peer behaviour (Bisquerra & Pérez-Escoda, 2007; Dueñas Buey, 2002; Holt et al., 2013; Ros Morente et al., 2024; Tirado Morueta & Conde Vélez, 2016). Rather than relying exclusively on disciplinary approaches, the present programme was grounded in a socioecological perspective in which bullying is understood as a group phenomenon shaped by peer relationships, classroom norms and school climate (Espelage & Swearer, 2008; Salmivalli et al., 1996; Waasdorp et al., 2011). In this respect, activities promoting empathy, prosocial behaviour, conflict resolution and personal reflection were designed not only to increase students' knowledge about bullying but also to strengthen protective interpersonal processes that may reduce aggressive interactions.

The larger reductions observed for face-to-face bullying than for cyberbullying are also consistent with previous literature. Cyberbullying extends beyond the physical boundaries of school and is characterised by anonymity, permanent accessibility and the persistence of harmful online content, making it more difficult to prevent through classroom-based interventions alone (Monks et al., 2016; Ortega-Ruiz & Zych, 2016; Zych et al., 2016). Recent evidence further indicates that cyberbullying is influenced by multiple contextual factors operating across school, family and digital environments (Kasturiratna et al., 2025). Consequently, although the intervention addressed responsible digital behaviour, longer and more comprehensive programmes involving families, teachers and online citizenship education may be required to achieve stronger effects on cyberbullying.

Consistent with the correlation analyses, another important finding was the strong association identified between face-to-face bullying and cyberbullying. Students reporting higher levels of bullying victimisation were also more likely to experience cybervictimisation ($p = .826$), whereas face-to-face bullying perpetration was positively associated with both cybervictimisation ($p = .669$) and cyberperpetration ($p = .611$). These findings reinforce previous evidence indicating that face-to-face bullying and cyberbullying are not independent phenomena but rather interconnected manifestations of the same underlying peer relationship dynamics (Antoniadou et al., 2016; Baldry et al., 2016; Ortega-Ruiz et al., 2016; Zych et al., 2016). They also support socioecological models describing bullying as a collective process in which bystanders play a key role in either reinforcing or interrupting aggression (Salmivalli et al., 1996). In this

regard, the inclusion of a session specifically designed to encourage students to move from passive bystanders to active upstanders represents one of the main strengths of the intervention and is consistent with recent recommendations highlighting the importance of empowering students to participate actively in bullying prevention (Biernesser et al., 2023; Cunningham et al., 2010). Taken together, these findings highlight the potential relevance of positive peer relationships and classroom social climate for the prevention of both face-to-face bullying and cyberbullying. However, given the exploratory design of the present study, these relationships should not be interpreted as evidence of an intervention effect. Further controlled research is needed to determine whether strengthening these factors contributes to measurable reductions in bullying and cyberbullying.

Regarding self-esteem, mean scores remained stable following the intervention and showed no clear associations with the bullying or cyberbullying dimensions. This finding is consistent with the conceptualisation of global self-esteem as a relatively stable and enduring psychological construct, for which substantial change typically requires interventions of greater duration and intensity (Rosenberg, 1965). Furthermore, within the context of brief psychoeducational interventions, students may experience a process of *response shift*, whereby increased awareness of their own behaviour and the classroom social climate leads to more critical and realistic self-evaluations at post-intervention. In addition, contemporary models of adolescent wellbeing suggest that brief interventions are more likely to influence specific socio-emotional competencies, interpersonal relationships, or school belonging than broader evaluations of global self-esteem (Gómez-López et al., 2019; Viejo et al., 2018). Consequently, future studies should incorporate complementary measures of emotional competence, school belonging, and psychosocial adjustment to capture more sensitively the multidimensional effects of this type of intervention.

The absence of statistically significant differences should also be interpreted in light of the study's methodological characteristics. The small sample size substantially reduced statistical power, limiting the likelihood of detecting significant differences despite the presence of moderate effect sizes for face-to-face bullying variables. Consequently, the descriptive reductions and effect sizes observed should be considered preliminary evidence rather than definitive proof of programme effectiveness. Similar challenges have been highlighted in school-based intervention research, where meaningful educational changes may not always reach conventional levels of statistical significance in small-scale studies.

Several limitations should therefore be acknowledged. The study involved a single class of students from one school, limiting the generalisability of the findings. In addition, anonymous data collection prevented matching individual pretest and posttest responses, requiring comparisons at the group level rather than within participants. The absence of a control group also precludes attributing the observed changes exclusively to the intervention, as natural developmental changes or other school experiences may have contributed to the results.

Despite these limitations, the study also presents several strengths. The intervention was theoretically grounded in current evidence regarding emotional education, positive school climate, socioecological models of bullying and active student participation. Furthermore, it combined cognitive, emotional and behavioural components within a brief programme that was feasible to implement during regular school

hours. The use of validated instruments (EBIP-Q, ECIP-Q and the Rosenberg Self-Esteem Scale) enhances the methodological robustness of the study and facilitates comparison with previous international research. Importantly, the ecological validity of implementing the programme under authentic school conditions increases its practical relevance for educational settings.

Future research should include larger samples, matched longitudinal designs and control groups to provide stronger evidence regarding programme effectiveness. It would also be valuable to examine additional outcomes closely related to bullying prevention, including emotional competence, empathy, school belonging, classroom climate, bystander behaviour and psychological wellbeing. Given the increasing overlap between face-to-face and online aggression, future interventions should also strengthen digital citizenship and responsible technology use while maintaining the emphasis on emotional education and positive peer relationships. Despite its exploratory nature, the present study provides initial evidence supporting the feasibility of implementing brief psychoeducational bullying prevention programmes within the regular secondary school curriculum.

Overall, although the intervention did not produce statistically significant improvements, the findings revealed favourable descriptive trends following the brief psychoeducational programme, particularly for face-to-face bullying victimisation and perpetration. Given the exploratory design and methodological limitations of the study, these trends should not be interpreted as evidence of programme effectiveness. Rather, they support the continued development and rigorous evaluation of feasible school-based interventions combining cognitive, emotional and behavioural strategies to promote safer and more supportive educational environments.

Conclusions

This pilot study examined changes in bullying, cyberbullying and self-esteem following a brief school-based psychoeducational programme delivered to a single secondary school class. Although no statistically significant changes were detected, descriptive reductions were observed in face-to-face victimisation and perpetration, whereas changes in cyberbullying were smaller and self-esteem scores showed notable temporal stability. The associations identified between offline and online forms of peer aggression further support addressing these behaviours through integrated prevention.

The findings suggest that a brief programme combining awareness raising, empathy, active bystander participation, conflict resolution and reflective learning can be implemented within regular school hours. However, the small sample, absence of a comparison group and inability to match individual pretest and posttest responses prevent conclusions regarding effectiveness. Future studies should use larger controlled samples, confidential participant codes, follow-up assessments and measures of implementation fidelity to determine whether the observed descriptive trends represent reliable intervention-related change.

Overall, these findings support the feasibility of integrating brief psychoeducational bullying prevention programmes into routine secondary school practice while providing a foundation for future controlled

evaluations.

Declarations

Biographical note

María Bellmunt Borràs is a researcher and member of the teaching staff at the Faculty of Education of the Universidad Internacional de La Rioja (UNIR), Spain, where she has served as a professor and researcher since 2021. She also serves as Director of the International Rural School (Barcelona, Spain), a British international school recognised for its innovative outdoor learning approach. Her research focuses on environmental education, outdoor learning, children's connection to nature, educational innovation, and the design and evaluation of school-based interventions that promote wellbeing and sustainability.

CRedit author statement

María Bellmunt Borràs: Conceptualization; Methodology; Investigation; Data curation; Formal analysis; Writing – original draft; Writing – review & editing; Visualization; Project administration.

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Disclosure statement

The author reports there are no competing interests to declare.

Ethics approval and consent to participate

Ethical approval for this study was granted by the Research Ethics Committee of Universidad Internacional de La Rioja (UNIR), Spain (Approval No. 148_2026). The study was conducted in accordance with the ethical principles of the Declaration of Helsinki and applicable ethical standards for research involving minors. Written informed consent was obtained from the parents or legal guardians of all participating minors.

Declaration of generative AI use

Generative artificial intelligence (AI) was used solely to assist with language editing, improving clarity, grammar, readability, and the overall presentation of the manuscript. The author takes full responsibility for the content of the manuscript, including the study design, data collection, statistical analyses, interpretation of the findings, and conclusions. No generative AI was used to generate, analyse, or interpret research data. All final decisions regarding the content of the manuscript were made by the author.

Data availability statement

The de-identified data and supporting materials underpinning this study are available for editorial and peer-review purposes at the following link:

<https://drive.google.com/drive/folders/10W5xNp4FqMLaRMifNdxth4bPCb7ij3kB?usp=sharing>

The shared materials include the assessment instruments used in the study, de-identified results from the administered assessments, materials and programmes used during the intervention, and records of the results of the intervention activities.

To protect the privacy of the participating minors, all shared research data are de-identified. Questionnaires were administered anonymously; consequently, individual pre-intervention and post-intervention responses cannot be linked.

Statistical analyses were conducted using jamovi (Version 2.6.4). The analytical procedures and statistical tests used are described in the manuscript.

The materials are made available to support editorial assessment and peer review. No directly identifying information about participants is included in the shared materials.

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