

Supportive Classroom Relationships as Protective Factors Against Bullying Among Slovenian Primary School Students

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Received : 17 June 2025
Revised : 31 March 2026
Accepted : 20 April 2026
DOI : 10.26822/iejee.2026.446

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Abstract

This study investigated how individual and contextual classroom factors contribute to bullying perpetration and victimization among Slovenian primary school students. While most research focuses on adolescence, this study targeted 4th and 5th-grade students to explore predictors during a critical transitional period. A total of 1,303 students (aged 9–11) participated in the study. Using self-report measures, we assessed peer relationships, teacher–student relationship closeness and conflict, classroom belonging, and experiences of bullying. Structural equation modeling was used to examine the associations between these variables. Results showed that lower classroom belonging, more conflictual teacher–student relationships, and poorer peer relationships were associated with higher victimization. Bullying perpetration was predicted by lower teacher–student closeness, higher teacher–student conflict, and poorer peer relationships. Notably, classroom belonging was associated with victimization but not perpetration, suggesting that the pathways to these roles may differ. Gender differences were also observed, with boys reporting higher involvement in both perpetration and victimization. These findings support the importance of classroom relationships in bullying prevention. Peer and teacher–student dynamics shape students’ social experiences and may reinforce or buffer bullying involvement. The results highlight the need for interventions that strengthen supportive peer interactions, enhance teacher–student closeness, and reduce conflict. Fostering a sense of classroom belonging may also serve as a protective factor, particularly for victims. The study contributes to the understanding of bullying during late childhood and offers evidence for early, relationship-centered prevention strategies.

Keywords:

Bullying, Victimization, Peer Relationships, Teacher-Student Relationships, School Belonging, Early Adolescence

Introduction

Peer bullying is a widespread public health concern that significantly affects children’s social and emotional development. It is defined as “aggressive, goal-directed behavior that aims to harm another individual within the



www.iejee.com
ISSN: 1307-9298

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context of a power imbalance" (Volk et al., 2014, p. 328). We will use the term "bullying" from this point on referring to interactions among peers. Bullying is a subtype of aggression (Salmivalli, 2010) and it is distinguished from general aggressive behavior by its repetitive nature, intentional harm, and power imbalance. The term bullying encompasses different forms of repetitive aggressive behaviors among peers, which are commonly categorized as verbal (saying hurtful things, calling hurtful names etc.), physical (kicking, hitting, tripping someone over, damaging someone's property etc.), relational (ignoring or excluding the person, spreading rumors, telling lies about someone etc.) and cyber bullying (using social media to harm or hurt someone) (e.g., Chapell et al., 2006).

Prevalence rates of peer bullying vary considerably depending on methodological approaches and contextual factors. A cross-national study by Johansson et al. (2022) confirmed its widespread occurrence, with monthly victimization reported by 18% to 60% of 10-year-old students across 50 countries, and weekly victimization by 4% to 35%. A recent meta-analysis by Ariani et al. (2025) estimated that globally, 25% of children and adolescents have experienced peer victimization, 16% have engaged in bullying, and another 16% have been both victims and perpetrators. Comparable national data from Slovenia indicate that 14% of students reported being victims of traditional peer bullying, 7.3% reported perpetrating it, and 3.2% were involved in both roles (Pirc et al., 2019).

Bullying victimization during childhood and adolescence has long-term effects on psychological adjustment later in life, as it is associated with higher risk for developing depression, anxiety, psychosomatic disorders, eating disorders and substance abuse in adulthood (McDougall & Vaillancourt, 2015). Bullying perpetration is similarly linked to negative outcomes, as individuals who perpetrate bullying during their formative years are more prone to participate in delinquent and risky behaviors in adulthood (Lebar et al., 2017).

Given the numerous adverse outcomes associated with bullying, it is imperative to understand the factors that may reduce students' involvement in such behaviors. Bullying occurs within a social context and is best understood through Bronfenbrenner's socio-ecological framework (1977, 1989), which highlights the dynamic interplay between individual and environmental influences. This model has proven especially useful in identifying risk and protective factors across ecological levels, enabling more targeted and context-sensitive interventions (Huang et al., 2024).

In selecting predictors for this study, we drew on findings from meta-analyses and systematic reviews

identifying individual characteristics and relational contexts within the classroom microsystem as key correlates of bullying (ten Bokkel et al., 2022; Zych et al., 2015). Specifically, we focused on students' sense of classroom belonging and gender as individual-level variables, and on peer relationships and teacher-student relationships quality (operationalized as closeness and conflict as contextual factors). These variables were not chosen as a complete list of predictors, but because they are well-supported by theory and can be influenced through interventions in the classroom setting (Hong & Espelage, 2012; Thornberg et al., 2017; Wang & Degol, 2016). Gender was included as a substantive predictor, given consistent evidence linking it to differences in bullying involvement, although the direction and magnitude of these associations may vary across forms of bullying and developmental stages (Smith et al., 2019).

Individual Factors

Sense of Belonging to the Classroom

The sense of belonging to the classroom refers to an individual's perception of the extent to which they feel supported, accepted, respected, and included within the classroom (Goodenow, 1993). It encompasses students' perception of their social status in the classroom as well as their emotional connection to it (Allen et al., 2016). The sense of belonging is strongly influenced by individual characteristics, including personality, experiences, culture, identity, and other perceptions (Allen et al., 2021).

A lower sense of belonging is considered a risk factor for both bullying perpetrating and victimization (Hong & Espelage, 2012). Students involved in bullying as victims or perpetrators often perceive diminished sense of belonging to the school, coupled with lower academic adjustment (Kashy-Rosenbaum & Aizenkot, 2020; Pečjak & Pirc, 2017).

Gender

Research findings regarding the role of gender in bullying remain inconsistent. While some studies have found that boys are more likely to engage in physical bullying and girls are more likely to engage in relational bullying (e.g., Dane et al., 2016; Gloppen et al., 2018), others do not report gender differences (Kljakovic & Hunt, 2016). However, more recently, Smith et al. (2019) overviewed five large cross-national data bases, and suggested that boys are more likely to be perpetrators than girls and that both genders are about equally at risk of being victimized. Researchers commonly explain differences in gender with different gender socialization and expectations for each gender (Felix & Green, 2010) and with theories of greater empathy in girls (Topcu & Erdur-Baker, 2012).

Contextual Factors

Peer Relationships

Adolescence represents a developmental period in which primary family takes on a less important role and peers become the most influential in shaping adolescents' behavior and values (Tajfel & Turner, 1979). Thornberg et al. (2017) found that positive and supportive relationships among students are associated with lower prevalence of bullying perpetration and victimization and Bollmer et al. (2005) reported that supportive relationships among peers can serve as buffers against victimization. On the other hand, students who are frequently victimized report lower quality of peer relationships and lower perceived acceptance and support in peer relationships (Perren and Hornung, 2005). Given the central role of peer dynamics in bullying processes, some authors emphasize that effective prevention requires interventions aimed specifically at improving the quality of peer relationships (e.g., Dietrich & Cohen, 2021).

Teacher–Student Relationships

Teacher–student relationships are foundational to students' academic, social, and emotional development. Conceptually, teacher–student relationships are typically described along two dimensions: closeness, reflecting warmth, open communication, and support, and conflict, reflecting distrust, coercion, and emotional distance (Pianta & Nimetz, 1991).

Recent evidence further emphasizes that teachers' positive perceptions of students foster supportive teacher–student relationships and are associated with a lower risk of bullying victimization. In contrast, negative perceptions were linked to conflictual teacher–student relationships and an increased likelihood of student victimization (Longobardi et al., 2023).

In contemporary developmental theory, teachers are increasingly understood as attachment figures, providing a secure base and emotional support that influence students' socio-emotional and academic adjustment across all school levels (Fabris et al., 2022). Teacher–student relationships marked by warmth, closeness, and mutual respect are consistently associated with favorable developmental outcomes and smoother adjustment to the school environment (Lin et al., 2024; Roorda et al., 2011, 2017;). Students who enjoy supportive teacher–student relationships tend to exhibit lower levels of oppositional behavior, are less likely to engage in bullying, and achieve higher peer social status, which may protect them from victimization (Bru et al., 2002; Longobardi et al., 2023; Maldonado-Carreño & Votruba-Drzal, 2011).

In contrast, conflictual teacher–student relationships are linked to an increased likelihood of both bullying perpetration and victimization (Huang et al., 2018; Longobardi et al., 2018; Marengo et al., 2021; ten Bokkel et al., 2022). In this way, teacher–student relationships serve as a relational context through which peers evaluate an individual's position within the group, potentially reinforcing inclusion or exclusion patterns.

Purpose of the Current Study

The purpose of this study was to identify the contribution of the selected factors to perpetration and victimization among 4th and 5th-grade students. While most studies focus on students at the peak of bullying, our study targets an often-overlooked age group just before bullying peaks, therefore addressing a critical developmental period (Espelage & Holt, 2013; Volk et al., 2014).

Drawing on previously mentioned findings (e.g. Bollmer et al., 2005; Huang et al., 2018; Smith et al., 2019), we included key classroom-level factors that contribute to bullying and victimization, including peer relationships and teacher–student relationships. By simultaneously examining both closeness and conflict in teacher–student relationships, our approach further explores the nuanced associations between teacher–student relationships and bullying involvement, as recommended by recent studies (ten Bokkel et al., 2022).

In addition, we included students' sense of classroom belonging and gender as individual-level factors. Although all relational variables reflect students' perceptions of their social environment, they were selected based on their distinct theoretical foundations and their relevance to designing classroom-based interventions. Together, these predictors offer a socially embedded perspective on bullying involvement that aligns with socio-ecological theory and reflects the interdependence of individual adjustment and relational dynamics in the classroom (Hong & Espelage, 2012; Roorda et al., 2011; Wang & Degol, 2016).

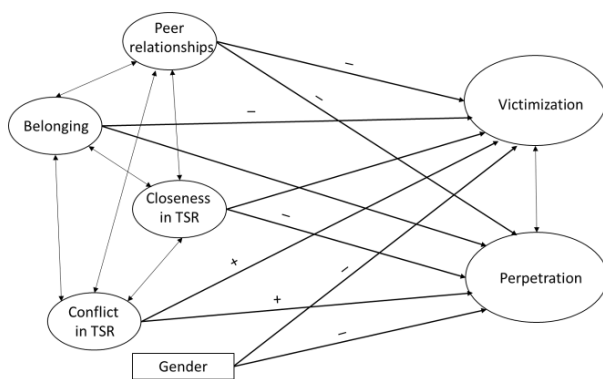
Based on previous research, we hypothesized the model presented in Figure 1, in which peer relationships, teacher–student closeness and teacher–student conflict, sense of belonging to classroom and gender are associated with bullying victimization and perpetration. We hypothesize that:

1. Lower classroom belonging, more conflictual teacher–student relationships, and poorer peer relationships will be associated with higher victimization.
2. Lower teacher–student closeness, higher teacher–student conflict, and poor peer relationships will predict higher perpetration.

- Girls will report less victimization and perpetration.

The outcomes of this study will enhance the understanding of the interrelationships among the studied variables and provide another perspective for developing practical implications aimed at preventing bullying in classroom settings. The age group of students included in our research is of particular interest to researchers and practitioners because bullying prevention programs tend to show greater efficacy up to the 7th grade (Yeager et al., 2015).

Figure 1
The Tested Model for Relationship Between Studied Variables and Bullying Perpetration and Victimization



Note. TSR – Teacher-Student Relationships

Method

Research Design

This study employed a cross-sectional quantitative research design, aimed at examining the associations between individual and classroom-level relational factors and students’ involvement in bullying. Given the nested structure of the data (students within classrooms), the study used multilevel structural equation modeling (SEM) to simultaneously estimate measurement and structural parameters while appropriately accounting for clustering. The design is correlational in nature and does not allow for causal inferences, but it enables a comprehensive analysis of the predictive interplay between peer relationships, teacher–student relationships, classroom belonging, gender, and bullying perpetration and victimization.

Participants

Our sample comprised 1,303 4th- and 5th-grade students¹, with 674 (51.7%) of them being girls. The mean age of participants was 9.91 years (min = 9, max = 12). Of the total sample, 527 (40.5%) students attended 4th grade and 776 (59.5%) attended 5th grade. Participants were drawn from 26 public primary schools located in urban, suburban, and rural areas, representing all Slovenian regions except one, as no school from this

region agreed to participate. All participating schools followed the national curriculum, and participation was voluntary for both schools and students. The final dataset included 80 classrooms, with an average of 16 students per classroom completing the survey. No cases were excluded due to missing responses, as the online survey required completion of all items. Altogether, the sample is considered broadly representative of Slovenian primary school students in this age group.

Instruments

To assess bullying, two scales from the School Bullying Scale (Cheng et al., 2011; Jaklin & Pečjak, 2013, as cited in Jaklin, 2013) were employed. One scale measured the frequency of experiencing bullying – Victimization (15 items, e.g. “In the last school year, someone intentionally damaged or destroyed my belongings.”), while the other measured the frequency of perpetrating such behavior - Perpetration (14 items). An additional item addressing severe forms of bullying, such as physical aggression, was included in the Perpetration scale, since a similar item was in the original version of the Victimization scale.

Participants responded on a 6-point scale: 0 (never), 1 (once or twice), 2 (two to three times a month), 3 (once a week), 4 (several times a week), and 5 (every day). In the Slovenian sample, the victimization scale exhibited a Cronbach’s α of 0.86, and the perpetration scale demonstrated an α of 0.88 (Jaklin, 2013). From the Perpetration scale, we omitted 5 items related to cyberbullying, coercion and destroying friendships due to low factor loadings and high modification indexes. We also permitted the covariances between the residuals of three pairs of content related items. A one-factor latent structure was confirmed with robust fit indicators (CFI = 0.965, TLI = 0.951, RMSEA = 0.059, SRMR = 0.038). We omitted 4 items from the Victimization scale (considering cyberbullying and speaking badly about someone in front of others) and permitted the covariance between the residuals of one pair of content-related items. The robust indicators (CFI = 0.968, TLI = 0.958, RMSEA = 0.056, SRMR = 0.033) suggested a good fit.

The Sense of Belonging at School scale (OECD, 2019) was administered, comprising six items designed to assess students’ sense of belonging to their class. Students responded to items on a 5-point Likert scale, ranging from 0 (strongly disagree) to 4 (strongly agree), with a higher score indicating a stronger sense of class belonging. The scale’s 6 items were adapted for better comprehension by the participants’ age group (e.g., “I feel like my classmates like me.”). In the acquired data, a one-factor latent structure of the scale (Belonging) was confirmed, allowing for covariance between the residuals of two content related items. The robust fit indicators (CFI = 0.989, TLI = 0.979, RMSEA = 0.059, SRMR =

0.020) suggested overall good fit. The reliability of the scale for our sample was $\alpha = 0.86$.

To assess peer relationships, we applied the Delaware School Climate Survey–Teacher/Staff (Bear et al., 2014; Slovenian adaptation by Roczen et al., 2020), which is a scale that originally measures teachers' perceptions of students' relationships within their respective classrooms. The original and Slovenian-adapted versions demonstrate robust internal reliability ($\alpha = 0.83$ – 0.92 , Bear et al., 2014; $\alpha = 0.94$, Roczen et al., 2020, respectively). To align with the study objectives, we prepared a parallel version of the scale tailored for students' responses, utilizing a 5-point Likert scale (ranging from 1 - strongly disagree to 5 - strongly agree). Our scale comprised of 8 items (e.g., "Students care about each other."). Confirmatory factor analysis in our sample confirmed a one-factor latent structure – peer relationships. The robust fit indicators (CFI = 0.977, TLI = 0.967, RMSEA = 0.059, SRMR = 0.024) suggested an overall satisfactory fit.

Two scales from the Inclusive Classroom Climate Questionnaire (Fischer et al., 2017; OECD, 2019) were utilized to assess perceived Closeness and Conflict in teacher–student relationships. Translated and adapted within the Slovenian project "Hand in Hand – Social and Emotional Skills for Tolerant and Non-discriminative Societies" (Roczen et al., 2020), the scales exhibited good reliability, with $\alpha = 0.87$ for the scale measuring Closeness in teacher–student relationships and $\alpha = 0.77$ for the scale measuring Conflict in teacher–student relationships (Roczen et al., 2020). Closeness in teacher–student relationships Scale included 8 items (e.g., "I can trust my teacher."), and the Conflict in teacher–student relationships Scale included 7 items (e.g., "The teacher humiliated me in front of other students."). Both scales were originally assessed on a 4-point scale. To maintain consistency and offer a neutral option, we transformed both scales into 5-point scales (ranging from 1 - not at all true to 5 - completely true). Instructions for both scales were adjusted to focus on the relationship with the homeroom teacher in the current school year. Additionally, age-appropriate modifications were made to the items, and an item ("When I'm in trouble or distress, I ask the teacher for help.") was added to the Closeness in teacher–student relationships Scale, since actively seeking help from a teacher is also an indicator of closeness in teacher–student relationships. Confirmatory factor analysis confirmed a one-factor structure for both scales. For the Closeness in teacher–student relationships Scale robust fit indicators (CFI = 0.966, TLI = 0.955, RMSEA = 0.063, SRMR = 0.034) suggested overall good fit. After we omitted one item from the Conflict in teacher–student relationships Scale due to low factor loading and a high modification index, the robust indicators (CFI = 0.966, TLI = 0.953, RMSEA = 0.070, SRMR = 0.035) supported a good fit.

Complete factor loadings for all questionnaire items used in this study are reported in Appendix A (Table 3).

Data Collection

After obtaining ethical approval, we began collecting data. Invitations for research participation were extended via email to primary school staff who had previously provided consent to collaborating institute to receive information about research activities.

In these emails, schools were briefed about the research, and those expressing interest were further invited to an online meeting. During this meeting, the data collection process was explained in detail. Following this session, detailed instructions, parental consent forms, instructions for students, the web link to the online survey, and a recording of the online meeting were provided to school counselling services.

Subsequently, school counselling services and homeroom teachers secured parental consent for student participation. Online questionnaires were then administered to 4th and 5th-grade students. Prior to commencement, students were briefed on the data collection purpose, with age-appropriate information. They were assured of the voluntary nature of participation and the confidentiality of their responses.

To maintain consistency, researchers crafted instructions for students, ensuring uniform information dissemination. The initial section of the online questionnaire captured demographic details before students proceeded to complete the survey, which included five psychometric instruments described in detail in the Measures section. Students could not skip items in the digital survey interface; thus, no item-level missing data were recorded. However, data on partial completions and drop-outs were not collected, which limits our ability to assess full participation rates and possible attrition bias.

Data Analysis

Statistical analyses were executed using SPSS 28.0 IBM for descriptive statistics, reliability analyses and calculating intraclass correlation coefficients (ICCs), the R lavaan package (Rosseel, 2012) for confirmatory factor analyses and Mplus Version 8.10 (Muthén & Muthén, 2017) for Structural equation modeling.

To account for the nested structure of the data (students within classrooms), we employed a multilevel modeling approach using the TYPE = COMPLEX option in Mplus. This method adjusts for the non-independence of observations within classrooms by correcting the standard errors for clustering (Muthén & Muthén, 2017). Individual-level (Level 1) included all the measured variables (gender, sense of belonging,

peer relationships, closeness in teacher–student relationships, conflict in teacher–student relationships, victimization, perpetration), while the classroom variable served as the clustering factor (Level 2), allowing us to account for between-classroom variability in the analysis. This approach ensures robust estimates and appropriate statistical inferences. The MLR estimator was used since some of the constructs were non-normally distributed (Muthén & Muthén, 2017). Factor loadings and reliabilities are presented in Table 3.

The intraclass correlation coefficient (ICC) was calculated to evaluate the proportion of variance in student scores attributable to differences between classrooms, indicating the extent to which classroom-level factors influenced student outcomes.

Results

We first present descriptive statistics (Table 1) and correlations among the investigated variables (Table 2) and then proceed to the results of structural equation modelling for bullying perpetration and victimization.

Table 1
Descriptive Statistics, Reliability Indices, and ICCs for Study Variables

	M	SD	Mdn	min	max	Skew.	Kurt.	α	ICC
Victimization	1.79	0.78	1.54	1.00	5.73	1.60	2.78	0.89	0.07
Perpetration	1.33	0.47	1.20	1.00	4.60	2.66	9.21	0.86	0.06
Belonging	4.08	0.80	4.33	1.00	5.00	-1.11	0.87	0.86	0.02
PR	3.48	0.66	3.50	1.00	5.00	-0.25	0.20	0.83	0.15
Closeness in TSR	4.18	0.72	4.33	1.00	5.00	-1.32	2.03	0.84	0.09
Conflict in TSR	1.59	0.68	1.50	1.00	5.00	1.96	5.11	0.71	0.07

Note. N = 1303; PR – Peer Relationships; TSR - Teacher–Student Relationships; ICC - intraclass correlation coefficients.

Overall, our scales exhibit good reliability. The mean scores of Victimization and Perpetration scale show that students on average perceive that they are being bullied more often than they are perpetrating bullying. To an average student, bullying situations occur two to three times a month. Students on average have a high sense of belonging to classroom, perceive highly positive relationships with homeroom teachers, rarely report conflict in the mentioned relationship and have predominantly supportive peer relationships. To assess the extent of variability attributed to differences between classrooms, we calculated the intraclass correlation coefficients (ICCs). The highest ICC was found for peer relationships, indicating that approximately 15% of the total variance in student scores can be attributed to differences between classrooms. The lowest ICC was found for Belonging scale.

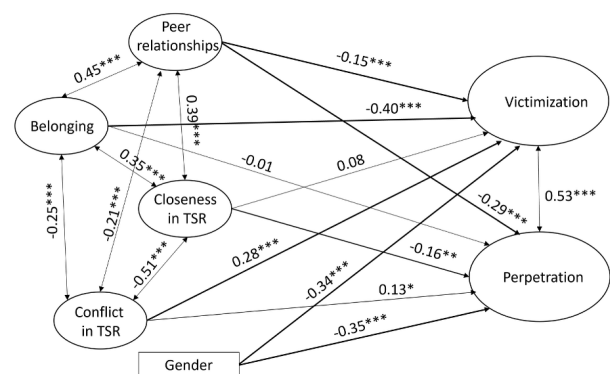
Table 2
Spearman’s Rho Correlation Coefficients Between the Studied Variables

	1.	2.	3.	4.	5.	6.
1. Victimization	1.00					
2. Perpetration	.57**	1.00				
3. Belonging	-.43**	-.22**	1.00			
4. PR	-.40**	-.34**	.46**	1.00		
5. Closeness in TSR	-.26**	-.29**	.34**	.31**	1.00	
6. Conflict in TSR	.35**	.27**	-.26**	-.20**	-.36**	1.00

Note. **p < 0.01; PR – Peer Relationships; TSR - Teacher–Student Relationships

The correlations among the studied variables (Table 2) show a clear pattern linking classroom relationships with students’ involvement in bullying. Both victimization and perpetration were negatively associated with classroom belonging, peer relationships, and perceived closeness in teacher–student relationships. This means that students who feel less accepted in the classroom or perceive lower-quality relationships with peers and teachers tend to report more frequent involvement in bullying. In contrast, conflict in teacher–student relationships showed positive associations with both outcomes, suggesting that negative interactions with teachers may relate to more problematic peer interactions. The correlation between victimization and perpetration was moderate, indicating that the two experiences often occur together but represent distinct forms of involvement. The correlations between the studied variables were computed using the Spearman’s rho coefficient since the variables were not normally distributed. The correlations between constructs were small to moderate, suggesting the necessity of examining constructs individually and indicating that multicollinearity is not a concern.

Figure 2
The Resulting Structural Equation Model for Relationships Between Studied Variables and Bullying Perpetration and Victimization.



Note. TSR – Teacher–Student Relationships; ***p < 0.001; **p < 0.01; *p < 0.05

Figure 2 shows the relationships among the variables included in the Structural Equation Model (SEM). Standardized path coefficients are shown for all paths. The fit indices ($\chi^2(1154) = 2756.72$, $p < 0.001$, CFI = 0.912, TLI = 0.907, RMSEA = 0.033, SRMR = 0.050) suggest an overall good fit to the data and suggest that the model provides an adequate representation of the underlying data structure. Victimization was most strongly predicted by lower classroom belonging, less positive peer relationships, and higher teacher–student conflict. For perpetration, the strongest predictors were poorer peer relationships and lower perceived closeness with the teacher, while teacher–student conflict made a smaller but still significant contribution. In addition, girls reported lower levels of involvement in both forms of bullying. Taken together, the model highlights the importance of classroom relationships for understanding both the risk and protective factors linked to bullying involvement in late childhood.

Discussion

Bullying remains a pervasive and serious issue affecting schools globally, with well-documented negative consequences for students' psychological and social well-being (Pečjak et al., 2021). This study investigated how individual and contextual factors—specifically peer relationships, teacher–student relationships, classroom belonging, and gender—relate to bullying perpetration and victimization among 4th- and 5th-grade students. While a moderate and significant correlation between victimization and perpetration was observed—consistent with prior research showing their frequent co-occurrence (Chan & Wong, 2015; Karataş et al., 2016; Kloo et al., 2023; Košir et al., 2023)—our results also indicate that these two forms of bullying involvement have both shared and distinct predictors. This finding supports Walters' (2021) meta-analytic conclusion that the relationship between bullying perpetration and victimization is both reciprocal and bidirectional. Some students may alternate between roles due to shifting peer hierarchies, while others may respond to past victimization by becoming perpetrators.

Among the predictors, the sense of classroom belonging showed the strongest negative association with bullying victimization. Students who reported feeling excluded, lonely, or socially disconnected—such as having difficulty forming friendships or feeling out of place—were significantly more likely to report experiences of victimization. This aligns with findings from Košir et al. (2023), who showed that social exclusion in the classroom context is often perceived as a direct form of victimization. These results support the notion that emotional inclusion within the peer group serves as a protective function against bullying.

Conflict in teacher–student relationships also emerged as a significant predictor of victimization. Students who experienced more negative interactions with their teachers—such as being treated unfairly, criticized, or humiliated—were more likely to be victimized by peers. This is consistent with the findings of ten Bokkel et al. (2022), and it highlights how teacher behavior can shape peer dynamics by modeling either inclusive or exclusionary norms. Particularly in this age group, where teacher approval holds strong social weight, students may become marginalized when they are frequently in conflict with their teacher.

Interestingly, teacher–student relationships closeness was not significantly associated with victimization. This is difficult to interpret due to the scarcity of research on this specific relationship, especially in younger age groups. One explanation may be a ceiling effect: as younger students generally perceive their relationships with teachers positively (Fauth et al., 2014), the variation in teacher–student relationships closeness may have been too small to detect effects. Additionally, studies with non-significant results may be underrepresented due to publication bias (Ferguson & Heene, 2012).

Our results also showed that less favorable peer relationships were significantly associated with higher levels of victimization. Students who perceived their classmates as unkind, unsupportive, or indifferent—and who reported lower levels of mutual care, help, and respect—were more likely to report being bullied. These findings are consistent with previous studies emphasizing that supportive peer dynamics act as a buffer against victimization (Thornberg et al., 2017; Wang et al., 2021).

The results reinforce the idea that victimization is not only a function of individual vulnerability, but also a relational and environmental phenomenon, shaped by the quality of interactions in the peer group. When students feel disconnected from their peers or excluded from positive group norms, their risk of being victimized increases. From a theoretical standpoint, this supports socio-ecological models that place classroom climate at the core of classroom bullying dynamics.

Regarding bullying perpetration, students who perceived lower-quality peer relationships—marked by a lack of kindness, mutual respect, and social inclusion—were more likely to report engaging in bullying behaviors. These findings are in line with previous research showing that negative peer relationships contribute not only to victimization but also to aggressive behaviors within the group (Stefanek et al., 2011; Thornberg et al., 2017). In classrooms where exclusion, disrespect, or social instability are perceived as common, such behaviors may become normalized, increasing the likelihood of bullying.

A key difference from victimization is that closeness in teacher–student relationships emerged as a significant negative predictor of perpetration. Students who perceived their teacher as warm, trustworthy, and supportive were less likely to engage in bullying. This supports findings that a secure and affirming teacher relationship may act as a protective factor by promoting prosocial norms, self-regulation, and empathy (Kloo et al., 2023; Lee et al., 2021).

Furthermore, conflictual teacher–student relationships were also positively associated with perpetration. Students who perceived more antagonism, unfair treatment, or disrespect from their teacher were more likely to report bullying others. This aligns with ten Bokkel et al.'s (2022) meta-analysis, which found stronger associations between teacher–student conflict and bullying than between teacher–student closeness and bullying. However, in our model, conflict in teacher–student relationships was the weakest significant predictor of perpetration, suggesting variability in the strength of this association across contexts. These findings emphasize that both the presence of teacher support and the absence of teacher hostility are important in reducing bullying behavior.

Contrary to our expectations, sense of classroom belonging was not significantly associated with bullying perpetration. While belonging emerged as a key protective factor for victimization, it did not appear to influence whether students reported engaging in bullying behavior. One possible explanation is that some students who perpetrate bullying may still feel socially included or even supported by peers, particularly if their behavior serves to reinforce dominance or social status within the group. As suggested by Álvarez-García et al. (2015), classmates may tolerate or align with bullies to avoid becoming targets themselves, which can allow perpetrators to maintain a sense of belonging despite violating group norms.

We also found that female students were less likely to be involved in bullying, both as victims and perpetrators. While this is consistent with studies showing lower rates of overt bullying among girls, findings in the literature remain mixed and may depend on the type of bullying assessed (e.g., physical vs. relational), the measurement method, and developmental stage (Smith et al., 2019). One possible explanation relates to the distribution of bullying items included in the measurement instruments. Although the scales captured a broad range of behaviors, they contained proportionally more items reflecting physical and verbal bullying than relational or covert forms. Previous research has shown that girls are typically less involved in physical aggression but may engage more frequently in relational forms

such as social exclusion or spreading rumors (Dane et al., 2016; Gloppen et al., 2018). Consequently, when measurement instruments emphasize overt behaviors, gender differences may appear more pronounced, potentially underestimating girls' involvement in relational bullying. This interpretation aligns with meta-analytic findings suggesting that observed gender patterns partly depend on the types of bullying behaviors assessed and the sensitivity of the measurement tools to more subtle or indirect forms of aggression (Kljakovic & Hunt, 2016). Nonetheless, gender remains an important variable in understanding the dynamics of school bullying. This finding also has implications for intervention design. A meta-analysis by Kennedy (2020) showed that bullying prevention programs tend to be more effective for boys, particularly in reducing victimization. In contrast, the limited impact of such interventions on girls suggests that current approaches may overlook gender-specific mechanisms of peer aggression and victimization. Our findings support the call for more differentiated, gender-responsive strategies in bullying prevention that consider how bullying manifests and is experienced differently across genders.

Limitations and Future Directions

Despite the strengths of this study—such as a large and diverse sample of primary school students—several limitations should be acknowledged. First, approximately half of the participating schools were implementing anti-bullying activities or prevention programs at the time of data collection. However, we did not gather information about which specific classrooms were involved in these programs. This limits our ability to account for potential intervention effects, which could have influenced rates of bullying involvement.

Furthermore, school participation was voluntary, and it is possible that schools with stronger interest in social-emotional learning or classroom relationships were more inclined to participate, potentially introducing a self-selection bias.

Another limitation is that we did not collect information on partial survey completions or student dropouts during data collection. As already noted in the Method section, the online survey required students to respond to all items, which ensured that completed questionnaires contained no missing data. However, because we did not record how many students started but did not finish the survey, we cannot determine overall participation rates or assess whether non-completion may have introduced any bias into the final sample.

Second, while our model included several theoretically grounded individual and classroom-level predictors, it did not address influences from other ecological

layers, such as family dynamics, school-wide norms, or neighborhood/community contexts (Espelage & Swearer, 2009). Future research should explore multi-level models that account for these broader systems and examine possible cross-context interactions (e.g., does parenting style moderate the effect of teacher–student conflict).

Third, although we treated the predictors as independent influences on bullying behavior, it is plausible that bullying involvement may itself shape social relationships, including teacher–student relationships and peer relationships. Prior studies suggest that students involved in bullying may elicit more negative responses from teachers (Demol et al., 2020). This bidirectional dynamic was not captured in our model and should be addressed in longitudinal or cross-lagged designs.

Finally, all variables were assessed through student self-report, which introduces the possibility of shared method variance. Although students' subjective experiences are highly relevant when studying peer and teacher relationships, relying on a single source may inflate correlations among constructs (ten Bokkel et al., 2022). Future research should consider incorporating multi-informant approaches (e.g., teacher or peer nominations) or observational methods.

Educational Implications

Despite its limitations, this study offers several valuable insights for school psychologists and educators aiming to reduce bullying in classrooms. First, the findings underscore the importance of fostering supportive peer relationships and close, respectful teacher–student relationships, both of which were associated with lower levels of bullying involvement. These relational dimensions are modifiable within school settings and should be targeted through universal prevention programs as well as teacher training. Given the central role of teachers in shaping classroom norms and climate, equipping them with strategies to build trust, show warmth, and promote fairness is essential (Marsh et al., 2023).

Specifically, since lower teacher–student closeness was associated with more frequent perpetration, even small, everyday teacher behaviors can make a meaningful difference. For example, research by Cook et al. (2018) shows that simple gestures—such as warmly greeting students at the classroom door—can foster inclusion and strengthen relational bonds. Teachers might also enhance connections by showing personal interest in students' lives, listening actively, and providing consistent emotional support. Importantly, these relational investments may not only improve behavior but also increase students' sense of belonging, which our findings identify as a key protective factor against victimization.

Furthermore, it is crucial that teachers avoid behaviors that could contribute to student alienation, such as inconsistent discipline or public criticism, which may indirectly encourage bullying or social exclusion. As our findings show, the absence of conflictual interactions is just as important as the presence of closeness in teacher–student relationships.

However, creating a safe and inclusive classroom climate is not the responsibility of teachers alone. School leadership plays a pivotal role in supporting these efforts. As highlighted by O'Keeffe (2013), school administrators can enhance students' sense of belonging by promoting a school culture where emotional safety is prioritized alongside academic goals. Our findings reinforce the need for school-wide approaches that involve collaboration between teachers, psychologists, counselors, and leadership to foster safe classroom environments.

In summary, this study shows that bullying prevention efforts should not only address individual behavior, but also focus on the relational ecosystems in which bullying emerges. Particularly in middle childhood, both positive peer relationships and healthy teacher–student dynamics play critical roles in protecting students from bullying and reducing its occurrence. Addressing both protective and risk factors may lead to more comprehensive and developmentally appropriate prevention strategies.

Footnotes

¹Slovenian primary school education follows a three-tier system, each lasting three years. During the initial three-year period, in the 4th and in the 5th grades, a single teacher typically instructs most subjects within a designated classroom. In contrast, from the 6th to the 9th grade, students encounter various teachers, each specializing in a specific subject. During the final four years of primary education, students transition between classrooms for each distinct subject.

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Appendix A

Table 3.
Standardized Factor Loadings and Reliabilities

Latent variable	Observed Variable	Standardized Factor Loading	α
Peer Relationships (PR)	PR1	0.767	0.83
	PR2	0.461	
	PR3	0.804	
	PR4	0.710	
	PR5	0.727	
	PR6	0.747	
	PR7	0.169	
	PR8	0.683	
Sense of Belonging (SoB)	SoB1	0.753	0.86
	SoB2	0.737	
	SoB3	0.653	
	SoB4	0.743	
	SoB5	0.622	
	SoB6	0.797	
Closeness in Teacher-Student Relationships (TSR)	TSR1	0.349	0.84
	TSR2	0.638	
	TSR3	0.718	
	TSR4	0.755	
	TSR5	0.473	
	TSR6	0.632	
	TSR7	0.791	
	TSR8	0.744	
	TSR9	0.583	
Conflict in Teacher-Student Relationships (CTSR)	CTSR1	0.276	0.71
	CTSR2	0.735	
	CTSR3	0.658	
	CTSR4	0.728	
	CTSR5	0.650	
Victimization (VIC)	VIC1	0.659	0.89
	VIC2	0.684	
	VIC3	0.623	
	VIC4	0.572	
	VIC5	0.654	
	VIC6	0.530	
	VIC7	0.751	
	VIC8	0.655	
	VIC9	0.719	
	VIC10	0.653	
	VIC11	0.689	
Perpetration (PER)	PER1	0.714	0.86
	PER2	0.538	
	PER3	0.628	
	PER4	0.730	
	PER5	0.554	
	PER6	0.660	
	PER7	0.632	
	PER8	0.406	
	PER9	0.710	
	PER10	0.559	