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Prosocial Behavior as a Protective Factor: Profiling Peer Bullying Risk in Elementary School

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Abstract

Prosocial behavior is a critical component of children's social and emotional development, fostering positive peer interactions and serving as a protective factor against bullying. While prior studies have explored prosociality, peer bullying, and digital media use separately, few have simultaneously examined these dimensions using a profile-based, cluster analytic approach in primary school populations. This study aimed to investigate prosocial behavior among fourth-grade students in relation to gender, bullying involvement (as perpetrator or victim), violent game exposure, digital device ownership, and daily screen time, and to identify prosociality-focused student profiles based on combined behavioral and digital risk factors. Participants were 229 students (52.4% girls) from seven primary schools. Data were collected using a Personal Information Form, the Child Prosocial Behavior Scale, and the Peer Bullying Self-Report Scale. Analyses included independent samples t-tests, one-way ANOVA with Scheffé post-hoc tests, and Two-Step Cluster Analysis. Results revealed that prosociality was significantly lower among boys, students exposed to violent games, and those involved in bullying, with a moderate effect of extended daily screen time. Cluster analysis identified two distinct profiles: Low Prosociality–High Risk (predominantly boys, high bullying involvement, extensive violent-game exposure and screen use) and High Prosociality-Low Risk (predominantly girls, minimal digital and social risks).

Keywords: Prosocial Behavior, Peer Bullying, Digital Device Use, Primary School, Cluster Analysis

Introduction

In contemporary educational settings, not only students' academic achievements but also their social and emotional development have gained increasing importance. Within this context, prosocial behaviors, which constitute a fundamental component of social development and are critical for the functioning of society, are defined as voluntary actions aimed at benefiting others or groups without any expectation of personal gain (Bağcı-Çetin & Öztürk-Samur, 2018; Çekin, 2013; Eisenberg & Mussen, 1989; Espinosa & Kovářík, 2015) [5, 8, 10, 13]. Also referred to as positive social behaviors, prosocial behaviors support individuals' social adjustment and are inversely associated with emotional and behavioral problems (Ata & Artan, 2021; Hay & Pawlby, 2003) [4, 20]. These behaviors, which reflect the expression of feelings, thoughts, and actions oriented toward the benefit of others, encompass a range of social skills such as altruism, empathy, sharing, cooperation, sympathy, responsibility, perspective-taking, role assumption, and self-worth (Abdullahi & Kumar, 2016; Bolat, 2023; Greener, 2000; Hay, 1994; Spataro, Calabrò, & Longobardi, 2020) [1, 6, 16, 19, 29].

Primary school is a critical period in which the foundations of children's social, emotional, and cognitive development are established. The social skills and values acquired during this stage directly affect children's peer relationships, academic achievement, and long-term social adaptation (Eisenberg, Spinrad, & Knafo-Noam, 2015; Caprara *et al*., 2015) [11, 7]. Prosocial behaviors exhibited by primary school students enhance social adjustment, increase acceptance in peer relationships, and promote academic engagement, while reducing the risk of conflict and social exclusion (Caprara *et al*., 2015 [7]; Durlak *et al*., 2011). Prosocial children also tend to form stronger relationships with teachers and contribute positively to the overall school climate (Luo *et al*., 2023) [23]. Supporting prosociality at an early age generates long-term positive outcomes for both academic and social life (Malti *et al*., 2016) [24]. Children who demonstrate prosocial behavior are more readily accepted by their peer groups, engage in fewer conflicts, and develop stronger social bonds (Caprara *et al*., 2015; Luo *et al*., 2023) [7, 23]. Conversely, children with low levels of prosociality are more likely to engage in bullying or become victims of bullying (Johnson *et al*., 2002; Warden *et al*., 2003; Mendes-Sousa *et al*., 2024) [21, 32, 25]. Low prosociality is more frequently observed among boys, whereas girls tend to exhibit higher prosocial tendencies and display a protective social profile in peer interactions (Milledge *et al*., 2019; Raskauskas *et al*., 2007) [26, 28]. Therefore, prosocial behaviors are regarded as an important protective factor against peer bullying among children and adolescents (Fu *et al*., 2023; Van Cleemput *et al*., 2014) [14, 31].

Bullying behaviors typically involve aggressive acts that target peers through physical or verbal means. During primary school, bullying facilitates the emergence of both bully and victim profiles and leads to psychological difficulties (Nickerson *et al*., 2008; Stavrinides *et al*., 2010) [27, 30]. Students with low prosocial behaviors are more likely to engage in bullying or become victims themselves (Johnson *et al*., 2002; Fu *et al*., 2023) [21, 14]. Moreover, global meta-analyses have demonstrated that school bullying significantly increases the risk of developing psychological problems among primary and lower secondary school students (Zhao *et al*., 2024) [34]. These findings reinforce the notion that low prosociality is a critical risk factor that increases both involvement in bullying and the likelihood of victimization.

In recent years, the impact of digital games and device use on children's social behaviors has attracted increasing attention. Violent video games may enhance aggression and negatively influence prosociality, whereas prosocial video games can foster empathy and helping behaviors (Anderson *et al*., 2010; Harrington & O'Connell, 2016 [18]; Greitemeyer & Mügge, 2014 [17]). Particularly in primary school, prolonged and uncontrolled use of digital devices may restrict face-to-face social interactions and indirectly reduce prosocial behaviors (Willoughby *et al*., 2020). Additionally, the digitization of communication environments increases the risk of cyberbullying and complicates the social profiles of children (Dueñas-Casado *et al*., 2025) [9].

Although numerous studies have examined the relationship between prosociality and peer bullying (Johnson *et al*., 2002; Fu *et al*., 2023) [21, 14], research that simultaneously considers prosociality, digital game/device use habits, and the holistic assessment of students' social profiles remains limited. This study aims to investigate the prosocial behavior levels of fourth-grade primary school students in relation to variables such as gender, bully/victim status, violent game play, device ownership, and daily usage duration, and to identify their prosociality-focused profiles using Two-Step Cluster Analysis. In this regard, the study makes a unique contribution to the literature by holistically addressing the interplay between digital engagement and social behaviors.

Research Questions

RQ1: Do the prosocial behavior levels of fourth-grade primary school students significantly differ according to the following variables?

1. Bully and victim status,
2. Gender,
3. Engagement in violent/war-themed digital games,
4. Ownership of a mobile phone or tablet,
5. Daily duration of mobile phone/tablet use.

RQ2: When prosocial behaviors are examined together with peer bullying, digital gaming, and device use variables, what distinct student profiles emerge among fourth-grade primary school students?

Method

Research Design

This study employed a quantitative research approach and was conducted using a descriptive and correlational survey design. The study aimed to determine whether prosocial behaviors differed according to variables such as gender, bully/victim status, violent digital game engagement, device ownership, and daily usage duration. In addition, prosociality-focused student profiles were identified through Two-Step Cluster Analysis. Accordingly, the study features both a comparative (difference-focused) and a profile-determining (descriptive–correlational) design.

Participants

The study group consisted of 229 fourth-grade students from seven primary schools located in a provincial center during the 2023–2024 academic year. Of these participants, 120 were female (52.4%) and 109 were male (47.6%). The students were recruited from schools representing different socio-economic backgrounds and voluntarily participated in the study. This study was conducted in accordance with the Declaration of Helsinki and was approved by the Uşak University, Approval No:2023-238. Informed consent was obtained from the students' parents/guardians, and participation was voluntary. Informed consent was obtained from participants, and data collection was conducted in the presence of their classroom teachers.

Data Collection Tools

The data were collected using the Personal Information Form, the Child Prosociality Scale: Child Form, and the Peer Bullying Self-Report Scale.

Personal Information Form: Developed by the researchers, this form collected demographic and digital-use data, including gender, smartphone ownership, daily mobile/tablet usage duration, and types of online games played. Reported games were categorized into violent/war-themed games and other games, based on their primary content.

Child Prosociality Scale: Child Form: Prosocial behavior levels were measured using the Child Prosociality Scale developed by Ata and Artan (2022). The scale consists of 20 items rated on a 4-point Likert scale ranging from 1 (*never*) to 4 (*always*), with three subdimensions: helping, sharing, and empathy. In the original study, McDonald's Omega coefficients ranged from .583 to .817, and Cronbach's alpha coefficients ranged from .574 to .811, indicating acceptable reliability.

Peer Bullying Self-Report Scale: Peer bullying behaviors were measured using the scale developed by Kutlu and Aydın (2010) [22]. The scale consists of 19 items rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), and includes three subdimensions: bully, victim, and filler. Reported Cronbach's alpha reliability coefficients were .83 for the bully subscale, .86 for the victim subscale, and .70 for the filler subscale. Total scores from the victim and bully subscales were used to compute means and standard deviations. Students were categorized based on z-standardized scores: those scoring ≥1 SD above the mean on the victim subscale were classified as "victims", and those scoring ≥1 SD above the mean on the bully subscale were classified as "bullies". Students scoring ≥1 SD above the mean on both subscales were classified as bully–victims.

Data Analysis

Data analysis was performed using SPSS 28.0. Prior to analysis, the dataset was screened for missing values and outliers. The normality assumption for continuous variables was assessed via skewness-kurtosis coefficients and the Kolmogorov–Smirnov test.

Independent samples t-tests were conducted to examine differences in prosocial behavior according to gender, bully/victim status, violent game engagement, and device ownership. A one-way ANOVA was applied to determine differences based on daily mobile phone/tablet usage. In cases of significant differences, Scheffé post-hoc tests were performed to identify the source of the differences.

To identify student profiles based on prosociality, bullying status, gender, violent game engagement, and digital device use, a Two-Step Cluster Analysis was conducted. The analysis employed log-likelihood distance measures and Schwarz's Bayesian Information Criterion (BIC) to determine the optimal number of clusters. Cluster quality was evaluated using the Silhouette coefficient, and the discriminative power of clusters was examined using ROC analysis. For all statistical procedures, the significance level was set at .05.

Results

The research findings are presented in three sections: descriptive statistics of prosocial behaviors, comparisons based on demographic variables, and finally, the results of the cluster analysis.

Descriptive Characteristics of Prosocial Behaviors and Comparisons across Variables

The prosocial behavior scores of fourth-grade primary school students ranged from 26 to 80, with a mean score of 60.69 (SD = 9.61), indicating that students generally exhibited moderate-to-high levels of prosocial tendencies.

To examine the relationship between students' prosocial behaviors and peer bullying, comparisons were conducted according to victim and bully status (Table 1).

Table 1: Comparison of Prosocial Behavior Scores by Victim and Bully Status

Group Variable	Group	n	M	Sd	t	df	p
Victim status	Victim	37	56,78	10,70	-2,73	227	.007
	Non-victim	192	61,44	9,23			
Bully status	Bully	33	53,45	9,82	-4,90	227	.000
	Non-bully	196	61,90	9,05			

The independent samples t-test results indicated that students' prosocial behavior scores differed significantly based on both victim and bully status. Victimized students had lower prosocial scores (M = 56.78) compared to non-victimized students (M = 61.44), t(227) = –2.73, p = .007. Similarly, students identified as bullies had markedly lower prosocial scores (M = 53.45) than non-bully students (M = 61.90), t(227) = –4.90, p < .001.

These findings suggest a negative association between peer bullying and prosociality. In other words, students with lower levels of prosocial behavior are more prone to both engaging in bullying and becoming victims of bullying.

Table 2: Comparison of Prosocial Behaviors by Gender

Gender	n	M	Sd	t	df	p
Girl	120	62,31	9,22	2,72	227	.007
Boy	109	58,90	9,76			

The independent samples t-test results presented in Table 2 indicated that students' prosocial behavior scores differed significantly by gender, t(227) = 2.72, p = .007. Girls had significantly higher prosocial scores (M = 62.31) than boys (M = 58.90). This finding suggests that behaviors such as helping, empathy, and sharing are more pronounced among girls compared to their boy peers.

Table 3: Comparison of Prosocial Behavior Scores by Playing Violent/War-Themed Games

Violent/War-Themed Game Play	n	M	Sd	t	df	p
Yes	88	58,90	9,89	-2,24	227	.026
No	141	61,80	9,30			

The independent samples t-test results presented in Table 3 revealed that students' prosocial behavior scores differed significantly according to their violent/war-themed game-playing status, t(227) = –2.24, p = .026. Students who reported playing violent or war-themed games had lower prosocial scores (M = 58.90) compared to those who did not play such games (M = 61.80). This finding indicates that exposure to violent digital games may negatively affect the tendency to engage in prosocial behaviors.

Table 4: Comparison of Prosocial Behavior Scores by Mobile Phone Ownership

Phone Ownership	n	M	Sd	t	df	p
Yes	103	61,17	10,10	0,68	227	.496
No	126	60,29	9,22			

As shown in Table 4, the independent samples t-test results indicated that students' prosocial behavior scores did not differ significantly based on mobile phone ownership, t(227) = 0.68, p = .496. This finding suggests that merely owning a mobile phone does not have a substantial effect on students' prosociality.

Table 5: Comparison of Prosocial Behaviors by Daily Mobile Phone/Tablet Usage

Source of Variance	n	M	Sd	t	df	Scheffe
Between Groups	1231,75	4	307,94	3,48	.009	0-1>4 saat üzeri
Within Groups	19845,61	224	88,60			
Total	21077,36	228				

The one-way ANOVA presented in Table 5 indicated that prosocial behavior scores significantly differed according to daily mobile phone usage, F(4, 224) = 3.48, p = .009. Results of the Scheffé post hoc test revealed that a significant difference in prosocial behavior scores existed only between the 0–1 hour group and the over 4-hour group (p = .018), with no significant differences observed among the other groups.

Profile Characteristics of Prosocial Behaviors among Fourth-Grade Primary School Students

To further examine the profile characteristics of fourth-grade primary school students' prosocial behaviors, a TwoStep cluster analysis was conducted considering prosociality levels in conjunction with peer bullying, violent game playing, digital device use, and gender variables. The analysis yielded two clusters, with a Silhouette coefficient of approximately 0.38, indicating a fair level of separation between clusters (Fig 1).

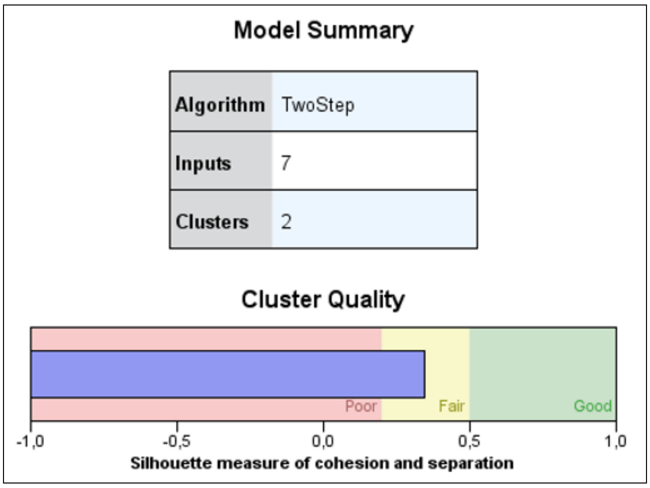

Fig 1: TwoStep Cluster Analysis Model Summary and Cluster Quality

Cluster Distributions and Key Descriptive Characteristics

As a result of the cluster analysis, students were categorized into two distinct profiles:

- Cluster 1 (n = 125, %54,6)
- Cluster 2 (n = 104, %45,4)

Examining the cluster centers revealed that the mean prosociality score was 58.82 for Cluster 1 and 62.92 for Cluster 2 (Table 6). To assess the discriminative capacity of the clusters, a ROC analysis was conducted using prosociality as the predictor variable, with Cluster 2 (high prosociality and safe profile) designated as the positive class. The ROC analysis yielded an area under the curve (AUC) of 0.617, indicating that prosociality provided only a limited level of discrimination between the clusters. As prosociality scores increased, the likelihood of students belonging to Cluster 2 also increased.

Table 6: Descriptive Results of the TwoStep Cluster Analysis

Variable	Cluster 1 (n = 125)	Cluster 2 (n = 104)
Prosociality M (SD)	58,82 (9,70)	62,92 (9,06)
Gender (F/M)	%13 / %87	%87 / %0
Extended Phone Use (≥3 hours)	%69	%23
Violent/War Game Play (Yes)	%87,5	%12,5
Smartphone Ownership (Yes)	%53	%47
Bully Status (Yes)	%97	%3
Victim Status (Yes)	%100	%0

- **Cluster 1 – Low Prosociality and High-Risk Profile (n = 125):** This cluster is characterized by relatively low prosociality (M = 58.82). The majority of students in this group are boys (87%). The rates of violent game play (87.5%) and prolonged mobile phone/tablet use are high. In addition, the prevalence of bullying (97%) and victimization (100%) behaviors is extremely high in this cluster.
- **Cluster 2 –** High Prosociality and Safe Profile (n = 104): This cluster is characterized by a high mean prosociality score (62.92), and the majority of students are female (87%). The rate of violent game play is low (12.5%), and extended mobile/tablet use is limited (23%).

In this cluster, bullying and victimization behaviors are almost absent; therefore, it can be defined as a protective social profile. These findings indicate that low prosociality, high digital exposure, and engagement in violent games tend to cluster together with bullying/victimization behaviors, whereas high prosociality aligns with a low-risk profile.

Discussion and Conclusion

The findings of this study revealed the relationship between prosocial behavior and peer bullying among fourth-grade primary school students and highlighted the role of digital device use in this context. The results demonstrated that students with lower levels of prosociality were more likely to engage in bullying behaviors and to become victims of bullying. This finding aligns with previous literature emphasizing prosocial behaviors as a protective factor against peer bullying (Johnson *et al.*, 2002; Warden *et al.*, 2003; Fu *et al.*, 2023) [21, 32, 14]. The results also indicated that students with low prosocial profiles were predominantly boys, frequently exposed to violent digital games, and engaged in prolonged digital device use. This pattern supports existing studies that underline the negative impact of violent digital games on social behaviors (Greitemeyer & Mügge, 2014; Anderson *et al.*, 2017; Willoughby *et al.*, 2012) [17, 2, 33].

The cluster analysis identified two primary social profiles: a low-prosocial, high-risk profile and a high-prosocial, low-risk (protective) profile. The low-prosocial, high-risk cluster predominantly consisted of boys, exhibited high rates of violent game play and prolonged device use, and demonstrated frequent engagement in both bullying and victimization behaviors. In contrast, the high-prosocial, low-risk profile was mostly composed of girls, had minimal exposure to violent games, and reflected low levels of social risk.

These findings underscore the critical role of digital exposure and game content in shaping students' social behavior patterns. Prior research has consistently indicated that prosocial games foster empathy and helping behaviors, whereas violent games amplify antisocial tendencies (Harrington & O'Connell, 2016; Gentile *et al.*, 2011; Greitemeyer & Mügge, 2014) [18, 15, 17].

The study also found that prosocial behavior scores declined as daily mobile phone and tablet usage increased. Specifically, students using digital devices for more than four hours per day exhibited significantly lower prosocial behaviors than those using them for only 0–1 hour. This suggests that prolonged screen exposure may limit social interaction opportunities, thereby reducing helping, sharing, and empathy behaviors (Willoughby *et al.*, 2020; Dueñas-Casado *et al.*, 2025 [9]).

Implications

The findings of this study highlight the critical importance of school-based preventive programs to support the social and emotional development of primary school students. In particular, early identification of students with low prosocial profiles is essential, as including these students in social skills training and emotional awareness programs can enhance behaviors such as empathy, cooperation, and helping. Such early interventions are likely to foster more positive outcomes in both peer relationships and academic life. Additionally, reducing exposure to violent digital games and promoting prosocial game content are important strategies for supporting students' social behaviors. Digital literacy programs and parental awareness initiatives are also crucial to ensure the effectiveness of these interventions.

Furthermore, the findings indicate that strengthening school-based social support mechanisms can play a key role in reducing bullying and victimization behaviors. Creating a positive classroom climate, implementing peer-support programs, and equipping teachers with strategies to foster social-emotional learning can contribute to building a protective social environment within schools (Van Cleemput *et al*., 2014 [31]; Armstrong-Carter *et al*., 2021[3]; Ellis *et al*., 2015). In conclusion, this study provides a comprehensive understanding of the relationship between prosociality, peer bullying experiences, and digital usage habits, offering an important contribution to the literature. The results emphasize that early interventions incorporating social skills education, digital awareness, and school-based prevention programs are essential strategies for enhancing social cohesion and reducing risky behaviors in primary school settings.

References

1. Abdullahi IA, Kumar P. Gender differences in prosocial behaviour. The International Journal of Indian Psychology. 2016; 3(4):171-175.
2. Anderson CA, Suzuki K, Bartholow BD, Funk JB, Griffiths MD, Warburton W. Media violence and other aggression risk factors in seven nations. Personality and Social Psychology Bulletin. 2017; 43(7):986-998. Doi: https://doi.org/10.1177/0146167217703064
3. Armstrong-Carter E, Miller JG, Hill LJB, Domingue BW. Young Children's Prosocial Behavior Protects Against Academic Risk in Neighborhoods With Low Socioeconomic Status. Child Development. 2021; 92(4):1509-1522. Doi: https://doi.org/10.1111/cdev.13549
4. Ata S, Artan IZ. Adolescent Prosociality Scale: Validity and Reliability Study/Ergen Prososyallik Olcegi: Gecerlik ve Guvenirlik Calismasi. Turkish Journal of Child and Adolescent Mental Health. 2021; 28(1):38-45.
5. Bağcı Çetin B, Öztürk Samur A. The Examination of the Relationship Between Prosocial Behaviors of the Children Between 60 and 72 Months Old and of Their Parents. Erzincan University Journal of Education Faculty. 2018; 20(1):1-17.
6. Bolat FN. Almanya'da Okul Öncesi Eğitim Kurumlarına Devam Eden Türk Çocukların Prososyal Davranışları İle Babalarının Prosoyal Davranışları ve Babalık Rolü Algılarının İncelenmesi. Unpublished Master Thesis, Gazi University, Eğitim Bilimleri Enstitüsü, Ankara, 2023.
7. Caprara GV, Luengo Kanacri BP, Zuffianò A, Gerbino M, Pastorelli C. Why and how to promote adolescents' prosocial behaviors: Direct, mediated and moderated effects of the CEPIDEA school-based program. Journal of Youth and Adolescence. 2015; 44(12):2211-2229.
8. Çekin A. A Quantitative Analyze on Imam Hatip High School Student's Prosocial Behavior Tendency. The Journal of International Social Research. 2013; 6(28):34-45.
9. Dueñas-Casado C, Falla D, Ortega-Ruiz R, Romera EM. Moral disengagement in primary school children involved in cyberbullying, bullying, and cybergossip. Social Psychology of Education. 2025; 28(1):1-14.
10. Eisenberg N, Mussen PH. The roots of prosocial behavior in children. Cambridge University Press, 1989.
11. Eisenberg N, Spinrad TL, Knafo-Noam A. Prosocial development. In R. M. Lerner (Ed.), Handbook of child psychology and developmental science (7th ed., Vol. 3, pp. 610-656). Wiley, 2015.
12. Ellis BJ, Volk AA, Gonzalez JM, Embry DD. The meaningful roles intervention: An evolutionary approach to reducing bullying and increasing prosocial behavior. Journal of Research on Adolescence. 2016; 26(4):622-637.
13. Espinosa MP, Kovářík J. Prosocial behavior and gender. Frontiers in Behavioral Neuroscience. 2015; 9:88.
14. Fu X, Li S, Shen C, Zhu K, Zhang M, Liu Y, *et al*. Effect of prosocial behavior on school bullying victimization among children and adolescents: Peer and student-teacher relationships as mediators. Journal of Adolescence. 2023; 95(2):322-335.
15. Gentile DA, Coyne S, Walsh DA. Media violence, physical aggression, and relational aggression in school age children: A short-term longitudinal study. Aggressive Behavior. 2011; 37(2):193-206. Doi: https://doi.org/10.1002/ab.20380
16. Greener SH. Peer assessment of children's prosocial behaviour. Journal of Moral Education. 2000; 29(1):47-60.
17. Greitemeyer T, Mügge DO. Video games do affect social outcomes: A meta-analytic review of the effects of violent and prosocial video game play. Personality and Social Psychology Bulletin. 2014; 40(5):578-589. Doi: https://doi.org/10.1177/0146167213520459
18. Harrington B, O'Connell M. Video games as virtual teachers: Prosocial video game use by children and adolescents from different socioeconomic groups is associated with increased empathy and prosocial behaviour. Computers in Human Behavior. 2016; 63:650-658.
19. Hay DF. Prosocial development. Journal of Child Psychology and Psychiatry. 1994; 35(1):29-71.
20. Hay DF, Pawlby S. Prosocial development in relation to children's and mothers' psychological problems. Child Development. 2003; 74(5):1314-1327.
21. Johnson HR, Thompson MJ, Wilkinson S, Walsh L, Balding J, Wright V. Vulnerability to bullying: Teacher-reported conduct and emotional problems, hyperactivity, peer relationship difficulties, and prosocial behaviour in primary school children. Educational Psychology. 2002; 22(5):553-556.
22. Kutlu F, Aydın G. Preliminary study of the bully scale

development: Self-report. Turkish Psychological Articles. 2010; 13(25):1-12.
23. Luo Y, Ma T, Deng Y. School climate and adolescents' prosocial behavior: The mediating role of perceived social support and resilience. Frontiers in psychology. 2023; 14:1095566.
24. Malti T, Chaparro MP, Zuffianò A, Colasante T. School-based interventions to promote empathy-related responding in children and adolescents: A developmental analysis. Journal of Clinical Child & Adolescent Psychology. 2016; 45(6):718-731. Doi: https://doi.org/10.1080/15374416.2015.1121822
25. Mendes-Sousa MM, Da Silva AR, Mariano M, Espolaor R, Shimizu RF, Mari JJ, *et al*. Prosocial behavior in children involved in peer violence. Trends in Psychiatry and Psychotherapy. 2024; 46:e20230632. Doi: https://doi.org/10.47626/2237-6089-2023-0632
26. Milledge SV, Cortese S, Thompson M, McEwan F, Rolt M, Meyer B, *et al*. Peer relationships and prosocial behaviour differences across disruptive behaviours. European Child & Adolescent Psychiatry. 2019; 28(6):781-793. Doi: https://doi.org/10.1007/s00787-018-1249-2
27. Nickerson AB, Mele D, Princiotta D. Attachment and empathy as predictors of roles as defenders or outsiders in bullying interactions. Journal of School Psychology. 2008; 46(6):687-703. Doi: https://doi.org/10.1016/j.jsp.2008.06.002
28. Raskauskas J, Stoltz AD. Involvement in traditional and electronic bullying among adolescents. Developmental Psychology. 2007; 43(3):564-575. Doi: https://doi.org/10.1037/0012-1649.43.3.564
29. Spataro P, Calabrò M, Longobardi E. Prosocial behaviour mediates the relation between empathy and aggression in primary school children. European Journal of Developmental Psychology. 2020; 17(5):727-745.
30. Stavrinides P, Georgiou S, Theofanous V. Bullying and empathy: A short-term longitudinal investigation. Educational Psychology. 2010; 30(7):793-802. Doi: https://doi.org/10.1080/01443410.2010.506004
31. Van Cleemput K, Vandebosch H, Pabian S, Bastiaensens S. Bullying and cyberbullying: Research overview. Brussels, Belgium: Belgian Federal Science Policy Office (BELSPO), 2014. https://www.publicsafety.gc.ca/cnt/rsrcs/pblctns/2018-ddrss-bllyng-cybrbllyng/2018-ddrss-bllyng-cybrbllyng-en.pdf
32. Warden D, Mackinnon S. Prosocial children, bullies and victims: An investigation of their sociometric status, empathy and social problem-solving strategies. British Journal of Developmental Psychology. 2003; 21(3):367-385.
33. Willoughby T, Adachi PJ, Good M. A longitudinal study of the association between violent video game play and aggression among adolescents. Developmental Psychology. 2012; 48(4):1044-1057. Doi: https://doi.org/10.1037/a0026046
34. Zhao N, Yang S, Zhang Q, Wang J, Xie W, Tan Y, *et al*. School bullying results in poor psychological conditions: Evidence from a survey of 95,545 subjects. Frontiers in Psychology. 2024; 15:1279872.