Research Article

Interplay of Social Media Addiction, Cyberbullying, and Academic Outcomes Among Children in Jalandhar, India

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ABSTRACT

Background:
Social media has become integral to children's lives, yet excessive use and exposure to cyberbullying may harm academic performance. Research on this issue among younger Indian children remains limited.

Objectives:
To examine how social media addiction and cyberbullying affect academic performance among school children in Jalandhar, India, and whether school-related stress mediates this relationship.

Method:
A cross-sectional survey of 190 students aged 8–12 years from four Jalandhar schools was conducted using a 5-point Likert-scale questionnaire assessing social media use, cyberbullying, school-related stress, and academic performance. Data were analyzed using Pearson's correlation, multiple regression, and mediation analysis in SPSS.

Results:
Cyberbullying was significantly associated with lower academic performance, while higher social media use was linked to greater exposure to cyberbullying. School-related stress was elevated among children who experienced cyberbullying but did not significantly mediate the relationship between cyberbullying and academic performance. YouTube, Instagram, and WhatsApp were the most commonly used platforms.

Conclusions:
Cyberbullying negatively influences children's academic performance and emotional well-being in Jalandhar. Strengthening digital literacy, parental guidance, and school-based support may help reduce online risks and protect children's learning outcomes.

Keywords: social media addiction, cyberbullying, academic performance, children, Jalandhar, India.

Introduction

BACKGROUND

Social media use has become an important part of daily life for children and adolescents, providing opportunities for communication, learning, and entertainment. However, excessive and uncontrolled use of smartphones and social networking platforms has raised concerns about negative psychological and educational outcomes. Previous research has shown that problematic smartphone and social media use is associated with anxiety, depression, and emotional distress among young people.[1,2] Increased online engagement has also been linked to changes in academic behaviour and performance.[3]

One of the major risks associated with social media use is cyberbullying, which includes intentional and repeated harm through digital communication such as messages, images, or online posts. Cyberbullying differs from traditional bullying in that it can occur at any time and reach a wide audience, often increasing its psychological impact.[4,5] Studies conducted across different countries have consistently shown that cyberbullying is a widespread problem among school-aged children and adolescents.[6,8]

Evidence suggests that children who experience cyberbullying are more likely to suffer from emotional problems, including sadness, anxiety, low self-esteem, and psychological distress.[9,12] Meta-analyses and systematic reviews have further demonstrated strong associations between peer victimization, cyberbullying, and adverse mental health outcomes.[13,15]

These psychological effects may interfere with children's ability to concentrate, engage in classroom activities, and perform well academically.

Several studies have also reported a relationship between cyberbullying and academic difficulties, including reduced motivation, absenteeism, and lower academic achievement.[16,17] Increased time spent on social networking platforms has been associated with poorer psychological functioning, which may indirectly affect

learning outcomes.[18],[19] While some adolescents appear resilient, others experience significant disruption to both emotional well-being and school performance.

Research has further highlighted that factors such as peer relationships, parental involvement, and school environment can influence children's vulnerability to cyberbullying and its outcomes.[20],[22] Protective factors, including supportive family relationships and positive school climates, may reduce the impact of online victimization.[23],[24]

Despite the growing body of international research, there remains limited evidence focusing on younger children, particularly within developing country contexts. Most existing studies concentrate on adolescents, leaving children aged below 12 years relatively understudied.

Understanding how social media addiction and cyberbullying affect academic performance and emotional well-being in younger children is essential for developing early prevention strategies and promoting safer digital environments.

METHOD

A school-based cross-sectional study was conducted among children aged 8–12 years attending four urban schools in Jalandhar, Punjab, during the 2025 academic year. A total of 190 students participated, exceeding the minimum required sample size. Students who actively used at least one social media platform and had parental consent were included, while those with significant learning or reading difficulties were excluded. Data were collected using a structured, self-administered questionnaire adapted from validated tools to assess social media use, cyberbullying experiences, school-related stress, and self-reported academic performance, using a 5-point Likert scale. The questionnaire was pilot-tested for clarity, and internal consistency was acceptable (Cronbach's alpha >0.75). Permission was obtained from school authorities, and written informed consent from parents and assent from students were secured prior to data collection. Questionnaires were administered during school hours, responses were anonymized, and data were stored securely for analysis.

ETHICAL CONSIDERATIONS

Ethical approval for this study was obtained from the Institutional Ethics Committee of Lovely Professional University, Punjab, India (Approval No: IEC-LPU/2025/634). The study was conducted only after receiving formal ethical approval and in accordance with the committee's guidelines. Permission was also obtained from the participating schools. Parents provided written informed consent, and students gave assent before participation. Participation was voluntary, confidentiality and anonymity were strictly maintained, and students were informed of their right to withdraw at any stage. School counselors were available to support students if any emotional discomfort arose during the study.

DATA ANALYSIS

Data were analysed using IBM SPSS Statistics. Descriptive statistics were used to summarise participant characteristics and study variables. Associations between variables were examined using Pearson's correlation. Multiple regression analysis was performed to assess the effects of cyberbullying, school-related stress, and social media use on academic performance, and mediation analysis was conducted to examine the role of school-related stress. A p value of

<0.05 was considered statistically significant.

RESULTS

Composite scores were calculated for cyberbullying, school-related stress, social media use, and academic performance by averaging responses to their respective Likert-scale items. Descriptive statistics including mean (M), standard deviation (SD), minimum, and maximum values were used to summarize the data.

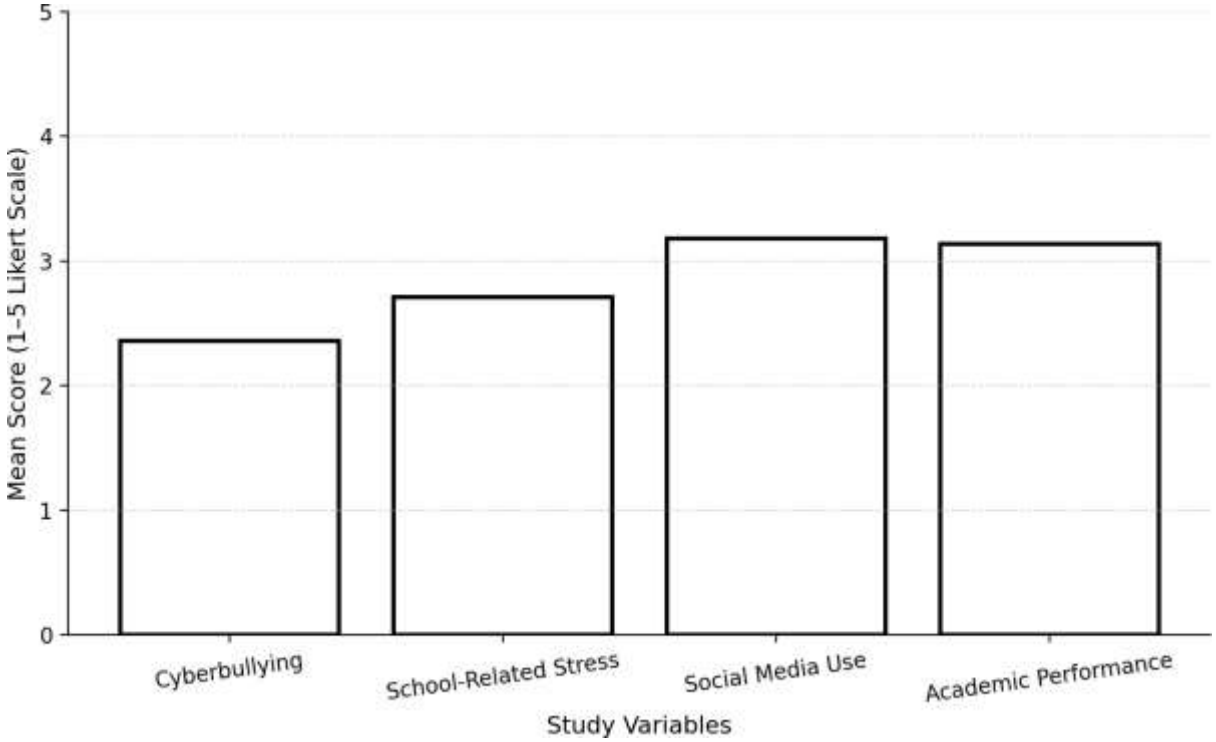
Table 1. Descriptive Statistics of Main Study Variables (N = 190)

Variable	Mean	SD	Minimum	Maximum
Cyberbullying	2.36	0.84	1.00	4.60

School-Related Stress	2.71	0.78	1.20	4.60
Social Media Use	3.18	0.76	1.40	5.00
Academic Performance	3.14	0.69	1.60	4.80

Figure 1. Mean scores of cyberbullying, school-related stress, social media use, and academic performance among children aged 8–12 years in Jalandhar (N = 190).

CORRELATION ANALYSIS



Pearson's correlation coefficients were computed to examine the relationships among the main study variables, cyberbullying, school-related stress, social media use, and academic performance.

Table 2. Correlation Matrix of Main Study Variables (N = 190)

Variable	1	2	3	4
Cyberbullying	1	-	-	-
School-Related Stress	.45**	1	-	-
Social Media Use	.27**	.16*	1	-
Academic Performance	-.24*	-.09	.02	1

*p < .05, **p < .01

INTERPRETATION

Cyberbullying showed a strong positive relationship with school-related stress (r = .45, p < .01), indicating that students who experienced higher levels of online harassment also reported greater emotional strain.

Cyberbullying was negatively correlated with academic performance ($r = -.24$, $p < .05$), suggesting that increased exposure to cyberbullying is linked to poorer academic outcomes. Social media use was positively associated with cyberbullying ($r = .27$, $p < .01$), while stress showed a weak and non-significant relationship with academic performance.

REGRESSION ANALYSIS

Multiple regression analysis was performed to examine whether cyberbullying, school-related stress, and social media use predicted academic performance.

Table 3. Multiple Regression Predicting Academic Performance (N = 190)

Predictor	B	SE	t	p
Cyberbullying	–0.268	0.074	–3.62	.001
Stress	0.098	0.066	1.48	.141
Social Media Use	0.061	0.058	1.05	.295
Constant	3.327	0.171	19.46	<.001

Cyberbullying emerged as a significant negative predictor of academic performance ($B = -0.268$, $p = .001$). School-related stress and social media use did not significantly predict academic performance, indicating that their influence may be indirect or context-dependent.

MEDIATION ANALYSIS

Table 4. Mediation Analysis Results

Path	Estimate	95% CI Lower	95% CI Upper	Significance
a (Cyber → Stress)	0.452	0.331	0.573	p < .001
b (Stress → Academic)	0.098	-0.052	0.248	n.s.
c (Total effect)	-0.204	-0.342	-0.066	p = .009
c' (Direct effect)	-0.268	-0.414	-0.122	p = .001
ab (Indirect effect)	0.044	-0.019	0.112	n.s.

The mediation analysis showed that cyberbullying significantly increased school-related stress. However, stress did not significantly predict academic performance, and the indirect effect was not statistically significant. The direct effect of cyberbullying on academic performance remained significant. The revised analysis confirms that cyberbullying remains a key factor affecting academic performance among children aged 8–12 years in Jalandhar. Students reported moderate exposure to cyberbullying and stress, alongside frequent social media use. Cyberbullying was consistently linked to higher stress levels and lower academic performance. Although stress was strongly associated with cyberbullying, it did not significantly mediate the relationship between cyberbullying and academic outcomes. These findings suggest that cyberbullying directly affects children's academic functioning, possibly through reduced concentration, classroom engagement, and emotional well-being.

DISCUSSION AND CONCLUSION DISCUSSION

This study examined how social media addiction and cyberbullying influence academic performance among children aged 8–12 years in Jalandhar, India, and explored the role of school-related stress and exposure to online risks. The findings provide insight into how children's digital experiences affect emotional well-being and learning during the early school years, a topic that has received limited attention in younger age groups.[1,3]

The results demonstrated a significant negative relationship between cyberbullying and academic performance, indicating that children who experienced higher levels of online harassment tended to perform worse in school. This finding is consistent with previous studies reporting reduced motivation, lower classroom participation, and poorer academic outcomes among children and adolescents exposed to cyberbullying.[4,7] However, the strength of this relationship was moderate,

suggesting that the impact of cyberbullying may vary between individuals. Some children may cope more effectively due to parental guidance, teacher support, or peer encouragement, factors that have been identified as protective in earlier research.[8,9] Younger children may also be relatively protected compared to adolescents because of closer supervision and reduced academic competition.[10]

The findings further revealed a strong association between cyberbullying and increased school-related stress. Children who experienced online harassment reported higher levels of worry and emotional strain, supporting previous evidence highlighting the psychological impact of cyberbullying and peer victimization.[11,14] Despite this association, school-related stress did not significantly predict academic performance in this study. This suggests that although cyberbullying increases emotional stress, stress alone may not directly interfere with learning outcomes in younger children. One possible explanation is that children in this age group may receive emotional support from family members and schools, which can help buffer the negative effects of stress on academic functioning.[15,16]

In addition, higher levels of social media use were associated with greater exposure to cyberbullying, while social media use itself was not directly related to academic performance. This finding aligns with earlier research suggesting that increased online engagement raises the likelihood of encountering harmful interactions without necessarily leading to immediate academic decline.[17,19] Popular platforms such as YouTube, Instagram, and WhatsApp provide opportunities for learning and social interaction but may also create environments where teasing, exclusion, and harassment occur. These findings highlight the importance of promoting safe and responsible social media use among children.[20,21]

Overall, the results are consistent with both Indian and international studies demonstrating that cyberbullying negatively affects children's emotional well-being and academic functioning.[4,6,12] However, the absence of a strong mediating role for stress differs from some studies conducted in Western contexts, where stress has been found to play a more direct role in academic decline.[14,22] This difference may reflect cultural factors, including stronger parental involvement and closer monitoring of younger children in the Indian context. The study has some limitations. Its cross-sectional design limits causal interpretation, and the use of self-reported data may introduce response bias. Additionally, the study was conducted in urban schools in Jalandhar, which may limit generalizability to rural settings.[23,24]

The findings also have important implications for practice and policy. Schools should incorporate cyber-safety education and clear anti-bullying policies into their programs, and teachers and counsellors should be trained to identify and address online harassment at an early stage. Parents play a crucial role in monitoring children's online activities and encouraging open communication about digital experiences. At the policy level, education authorities should support digital citizenship initiatives that promote responsible online behavior, while collaboration between schools, families, and community organizations can contribute to safer digital environments and improved mental health support for children.[20,24]

CONCLUSION

This study concludes that cyberbullying and social media addiction are associated with academic performance and emotional well-being among primary school children in Jalandhar. Higher exposure to cyberbullying was linked to poorer academic outcomes, while school-related stress was strongly associated with cyberbullying but did not directly affect academic performance. These findings indicate that negative online experiences are present at an early age and are relevant to children's learning and emotional health.

REFERENCES

1. Elhai JD, Dvorak RD, Levine JC, Hall BJ. Problematic smartphone use: a conceptual overview and systematic review of relations with anxiety and depression psychopathology. J Affect Disord. 2017;207:251–259. https://doi.org/10.1016/j.jad.2016.08.030

2. Giunchiglia F, Zeni M, Gobbi E, Bignotti E, Bison I. Mobile social media usage and academic performance. Comput Human Behav. 2018;82:177–185. https://doi.org/10.1016/j.chb.2017.12.041
3. Kowalski RM, Giumetti GW, Schroeder AN, Lattanner MR. Bullying in the digital age: a critical review and meta-analysis of cyberbullying research among youth. Psychol Bull. 2014;140(4):1073–1137. https://doi.org/10.1037/a0035618
4. Smith PK, Mahdavi J, Carvalho M, Fisher S, Russell S, Tippett N. Cyberbullying: its nature and impact in secondary school pupils. J Child Psychol Psychiatry. 2008;49(4):376–385. https://doi.org/10.1111/j.1469-7610.2007.01846.x
5. Tokunaga RS. Following you home from school: a critical review and synthesis of research on cyberbullying victimization. Comput Human Behav. 2010;26(3):277–287. https://doi.org/10.1016/j.chb.2009.11.014
6. Hinduja S, Patchin JW. Cyberbullying: an exploratory analysis of factors related to offending and victimization. Deviant Behav. 2008;29(2):129–156. https://doi.org/10.1080/01639620701457816
7. Kowalski RM, Limber SP. Electronic bullying among middle school students. J Adolesc Health. 2007;41(6):S22–S30. https://doi.org/10.1016/j.jadohealth.2007.08.017
8. Olweus D. Cyberbullying: an overrated phenomenon? Eur J Dev Psychol. 2012;9(5):520–538. https://doi.org/10.1080/17405629.2012.682358
9. Bauman S, Toomey RB, Walker JL. Associations among bullying, cyberbullying, and suicide in high school students. J Adolesc. 2013;36(2):341–350. https://doi.org/10.1016/j.adolescence.2012.12.001
10. van Geel M, Vedder P, Tanilon J. Relationship between peer victimization, cyberbullying, and suicide in children and adolescents. JAMA Pediatr. 2014;168(5):435–442. https://doi.org/10.1001/jamapediatrics.2013.4143
11. Gini G, Pozzoli T. Bullied children and psychosomatic problems: a meta-analysis. Pediatrics. 2013;132(4):720–729. https://doi.org/10.1542/peds.2013-0614
12. Hamm MP, Newton AS, Chisholm A, et al. Prevalence and effect of cyberbullying on children and young people. JAMA Pediatr. 2015;169(8):770–777. https://doi.org/10.1001/jamapediatrics.2015.0944
13. Sampasa-Kanyinga H, Lewis RF. Frequent use of social networking sites is associated with poor psychological functioning among children and adolescents. Cyberpsychol Behav Soc Netw. 2015;18(7):380–385. https://doi.org/10.1089/cyber.2015.0055
14. Twenge JM, Martin GN, Campbell WK. Decreases in psychological well-being among adolescents after 2012. Emotion. 2018;18(6):765–780. https://doi.org/10.1037/emo0000403
15. Keles B, McCrae N, Grealish A. A systematic review: the influence of social media on depression, anxiety and psychological distress. Int J Adolesc Youth. 2020;25(1):79–93. https://doi.org/10.1080/02673843.2019.1590851
16. George MJ, Odgers CL. Seven fears and the science of how mobile technologies may be influencing adolescents. Perspect Psychol Sci. 2015;10(6):832–851. https://doi.org/10.1177/1745691615596788
17. Nesi J, Prinstein MJ. Using social media for social comparison and feedback-seeking. J AbnormChild Psychol. 2015;43(8):1427–1438. https://doi.org/10.1007/s10802-015-0020-0
18. Espelage DL, Hong JS. Cyberbullying prevention and intervention efforts: current knowledge and future directions. Can J Psychiatry. 2017;62(6):374–380. https://doi.org/10.1177/0706743716684793
19. Frison E, Eggermont S. Exploring the relationships between different types of Facebook use, perceived online social support, and adolescents' depressed mood. Soc Sci Comput Rev. 2015;33(4):444–458. https://doi.org/10.1177/0894439314567449
20. Patchin JW, Hinduja S. Traditional and nontraditional bullying among youth: a test of general strain theory. Youth Soc. 2011;43(2):727–751. https://doi.org/10.1177/0044118X10366951
21. Raskauskas J, Stoltz AD. Involvement in traditional and electronic bullying among adolescents. Dev Psychol. 2007;43(3):564–575. https://doi.org/10.1037/0012-1649.43.3.564
22. Wang J, Nansel TR, Iannotti RJ. Cyber bullying and traditional bullying: differential association with depression. J Adolesc Health. 2011;48(4):415–417. https://doi.org/10.1016/j.jadohealth.2010.07.012
23. Schneider SK, O'Donnell L, Stueve A, Coulter RWS. Cyberbullying, school bullying, and psychological distress: a regional census of high school students. Am J Public Health. 2012;102(1):171–177. https://doi.org/10.2105/AJPH.2011.300308
24. Zych I, Farrington DP, Ttofi MM. Protective factors against bullying and cyberbullying: a systematic review. Aggress Violent Behav. 2019;45:4–19. https://doi.org/10.1016/j.avb.2018.06.008
25. Hu Y, Bai Y, Pan Y, Li S. Cyberbullying victimization and depression among adolescents: a meta-analysis. Psychiatry Res. 2021;305:114198. https://doi.org/10.1016/j.psychres.2021.114198

26. Fahy AE, Stansfeld SA, Smuk M, Smith NR, Cummins S, Clark C. Longitudinal associations between cyberbullying involvement and adolescent mental health. J Adolesc Health. 2016;59(5):502–509. https://doi.org/10.1016/j.jadohealth.2016.06.006
27. Kwan I, Dickson K, Richardson M, MacDowall W, Burchett H, Stansfield C, et al. Cyberbullying and children and young people's mental health: a systematic map of systematic reviews. Cyberpsychol Behav Soc Netw. 2020;23(2):72–82. https://doi.org/10.1089/cyber.2019.0370
28. Guimond S, et al. Problematic social media use in adolescents and young adults: systematic review and meta-analysis. JMIR Ment Health. 2022;9(4):e33450. https://doi.org/10.2196/33450
29. Plackett R, Sheringham J, Dykxhoorn J. The longitudinal impact of social media use on UK adolescents' mental health: longitudinal observational study. J Med Internet Res. 2023;25:e43213. https://doi.org/10.2196/43213
30. Li C, Wang P, Martin-Moratinos M, et al. Traditional bullying and cyberbullying in the digital age and its associated mental health problems in children and adolescents: a meta-analysis. Eur Child Adolesc Psychiatry. 2024;33:2895–2909. https://doi.org/10.1007/s00787-022-02128-x
31. Fredrick S, Nickerson AB, Livingston JA. Adolescent social media use: pitfalls and promises in relation to cybervictimization, friend support, and depressive symptoms. J Youth Adolesc. 2022;51(2):361–376. https://doi.org/10.1007/s10964-021-01561-6
32. Cai Z, Mao P, Wang Z, et al. Associations between problematic internet use and mental health outcomes of students: a meta-analytic review. Adolesc Res Rev. 2023;8(1):45–62. https://doi.org/10.1007/s40894-022-00201-9
33. Lee J, Choo H, Zhang Y, et al. Cyberbullying victimization and mental health symptoms among children and adolescents: a meta-analysis of longitudinal studies. Trauma Violence Abuse. 2026;27(2):391–406. https://doi.org/10.1177/15248380241313051
34. Halliday S, et al. The relationship between early adolescent cyberbullying victimization and later emotional wellbeing and academic achievement. Psychol Sch. 2023;60(12):5281–5301. https://doi.org/10.1002/pits.23032
35. Saleem N, Young P, Yousuf S. Exploring the relationship between social media use and symptoms of depression and anxiety among children and adolescents: a systematic narrative review. Cyberpsychol Behav Soc Netw. 2024;27(11):771–797. https://doi.org/10.1089/cyber.2023.0456
36. Fassi L, Thomas K, Parry DA, Leyland-Craggs A, Ford TJ, Orben A. Social media use and internalizing symptoms in clinical and community adolescent samples: a systematic review and meta-analysis. JAMA Pediatr. 2024;178(8):814–822. https://doi.org/10.1001/jamapediatrics.2024.2078
37. Ahmed O, Walsh EI, Dawel A, Alateeq K, Espinoza Oyarce DA, Cherbuin N. Social media use, mental health and sleep: a systematic review with meta-analyses. J Affect Disord. 2024;367:701–712. https://doi.org/10.1016/j.jad.2024.08.193
38. Purba AK, Thomson RM, Henery PM, Pearce A, Henderson M, Katikireddi SV. Social media use and health risk behaviours in young people: systematic review and meta-analysis. BMJ. 2023;383:e073552. https://doi.org/10.1136/bmj-2022-073552
39. Orben A, Meier A, Dalgleish T, Blakemore SJ. Mechanisms linking social media use to adolescent mental health vulnerability. Nat Rev Psychol. 2024;3:407–423. https://doi.org/10.1038/s44159-024-00307-y