International Journal of Contemporary Pediatrics
Kokane N et al. Int J Contemp Pediatr. 2026 Jan;13(1):126-130
http://www.ijpediatrics.com
pISSN 2349-3283 | eISSN 2349-3291

DOI: https://dx.doi.org/10.18203/2349-3291.ijcp20254197

Review Article

Harnessing school social capital to curb adolescent tobacco use

Noopur Kokane[1]*, Vandana Gade[2], Ranu Patil[3], Damyanti Walke[4], Komal Rewatkar[1]

[1]Department of Public Health Dentistry, Government Dental College and Hospital, Nagpur, Maharashtra, India
[2]Department of Conservative Dentistry and Endodontics, Swargiya Dadasaheb Kalmegh Smruti Dental College, Nagpur, Maharashtra, India
[3]Department of Oral Medicine and Diagnosis, Government Dental College and Hospital, Nagpur, Maharashtra, India
[4]Department of Oral and Maxillofacial Surgery, Government Dental College and Hospital, Nagpur, Maharashtra, India

Received: 30 October 2025
Accepted: 02 December 2025

***Correspondence:**
Dr. Noopur Kokane,
E-mail: nkokanegupta@gmail.com

ABSTRACT

Tobacco use during adolescence remains a global public health concern, with initiation often beginning between 13 and 15 years of age. In India, approximately 14.6% of adolescents are current users, with smokeless forms such as gutkha, kharra, and bidis presenting additional challenges. If current trends persist, nearly 250 million children alive today may die prematurely from tobacco-related diseases. Schools, where adolescents spend most of their waking hours, are critical settings for shaping health behaviors. School social capital defined as the trust, networks, cooperation, and shared norms within a school community serves as a protective factor against tobacco initiation and can foster cessation. This narrative review synthesizes global and Indian evidence on the relationship between school social capital and adolescent tobacco use, highlighting strategies such as peer mentoring, teacher–student trust, parental engagement, and culturally sensitive interventions in rural and tribal settings. Strengthening school social capital fosters resilience, enhances school climate, and deters risky behaviors. Integrating this approach within school-based health promotion and tobacco control policies can contribute to building tobacco-free generations.

Keywords: Adolescents, Tobacco use, School social capital, Peer mentoring, Tobacco prevention, India

INTRODUCTION

Globally, between 82,000 and 99,000 children and adolescents initiate smoking every day, with almost half continuing into adulthood, and half of those expected to die prematurely from tobacco-related illnesses.[1] If unchecked, tobacco could claim the lives of nearly 250 million of today's children.[2] In India, the Global Youth Tobacco Survey (GYTS, 2019) reported that 14.6% of adolescents aged 13–15 years were current users, with a higher prevalence among boys.[3] Beyond cigarettes, smokeless tobacco such as gutkha, kharra, and bidis remains common.[4]

A large-scale survey conducted by Government Dental College and Hospital, Nagpur, among 23,000 tribal students, revealed a 53% prevalence of tobacco use, reflecting the magnitude of the problem in vulnerable populations.[5] As adolescence represents a critical period of psychological and social development, the school environment plays a pivotal role in shaping health-related behaviors. School social capital—comprising trust, cooperation, networks, and shared values within a school community can be strategically leveraged to reduce tobacco use among adolescents.[6]

Adolescent tobacco use strongly predicts adult dependence and morbidity. Nearly 90% of adult smokers begin before the age of 18.[7] In India, weak enforcement of bans on kharra and gutkha, coupled with social acceptance of smokeless tobacco, exacerbates the issue.[8] The easy availability of tobacco around schools and exposure to role models who smoke further increase experimentation and initiation among youth.

SCHOOL SOCIAL CAPITAL AND HEALTH BEHAVIORS

School social capital encompasses the resources embedded in social relationships within the school setting, influencing students' health behaviors, attitudes, and academic engagement. It operates through two primary dimensions: bonding social capital, referring to close, trust-based ties among peers and teachers, and bridging social capital, referring to broader connections across diverse groups such as parents, school authorities, and the community.[9,10]

A supportive and cohesive school environment can foster positive norms that discourage health-risk behaviors like tobacco use, substance abuse, and violence.[11] Students embedded in strong social networks are more likely to internalize school norms, exhibit prosocial behaviors, and seek guidance during stress.[12] Conversely, low school connectedness and perceived discrimination have been associated with increased smoking, absenteeism, and poor mental health outcomes.[13,14]

Empirical evidence suggests that high levels of school social capital are inversely associated with tobacco and alcohol use. In a Japanese cohort, Takakura demonstrated that social trust at school significantly predicted reduced smoking and drinking.[9] Similarly, a Finnish study reported that students perceiving higher teacher support and school fairness had lower odds of daily smoking.[15] In the United States, Bond et al found that students with strong school connectedness were less likely to initiate smoking, even after adjusting for parental and peer influences.[16]

Teacher–student relationships serve as a critical conduit for social capital. Trusting relationships enhance communication and provide adolescents with non-parental adult role models who reinforce health-promoting norms.[17] Peer support networks also shape behavioral choices; adolescents are more likely to conform to anti-tobacco norms when their peer groups model abstinence and offer emotional support.[18]

Parental involvement further strengthens school social capital. Family–school collaboration enhances monitoring, improves communication, and reinforces consistent health messaging across home and school settings.[19] Collective participation in extracurricular activities, student-led clubs, and community health events enhances bridging social capital by promoting shared goals and belonging.

Ultimately, schools that nurture high levels of trust, reciprocity, and shared responsibility foster resilience and psychological safety, thereby mitigating adolescent vulnerability to tobacco use and other risky behaviours.[20,21] These findings underscore that social capital is not a passive construct but an actionable determinant of adolescent health, warranting its integration into tobacco prevention and health-promotion frameworks within educational settings.

COMPONENTS OF SCHOOL SOCIAL CAPITAL

Trust and cooperation

Adolescents who trust their teachers and peers are more likely to seek help and resist peer pressure. A Japanese study demonstrated that higher social trust at school significantly reduced smoking and drinking behaviors.[22]

Networks and relationships

Social network analyses show that adolescents with stronger peer connections are less likely to smoke, while socially isolated students are at higher risk.[23]

Sense of belonging

A positive school climate fosters belonging and discourages initiation. Longitudinal data from the Healthy Passages study found that higher school social capital in grade 5 predicted lower smoking rates by grade 10.[24]

Positive norms and values

Schools that demonstrate visible anti-tobacco norms and teacher role modelling report lower student smoking rates.[25] Permissive environments, by contrast, promote experimentation.[26]

Parental and community involvement

Active parent–teacher associations and engagement activities reinforce anti-tobacco messages. Indian research highlights that parental tobacco use is a strong predictor of adolescent use.[27]

STRATEGIES FOR HARNESSING SCHOOL SOCIAL CAPITAL

Strengthening school social capital requires structured, multisectoral strategies that integrate trust-building, peer influence, and community participation into the fabric of school life. Schools serve as micro-communities where values, norms, and behaviors are shaped daily; thus, well-designed interventions can translate social cohesion into tangible health outcomes such as reduced tobacco use and improved psychosocial resilience.

Peer mentoring and student-led clubs

Peer influence is one of the strongest predictors of adolescent tobacco initiation. Harnessing this influence positively through peer mentoring, student-led clubs, and health ambassador programmes fosters bonding social capital and empowers adolescents as change agents.[23] Peer-led initiatives have been shown to improve knowledge, shift social norms, and enhance refusal skills

against tobacco offers.[24] For example, the Youth Against Tobacco initiative in India demonstrated that students trained as peer leaders could sustain anti-tobacco advocacy within their schools for over a year.[25] Integrating such programmes into school health clubs or NSS/NCC units can provide institutional continuity and recognition.

Teacher engagement and curriculum integration

Teachers play a pivotal role in shaping school norms and act as credible role models for students. Training teachers to deliver interactive tobacco education using case-based learning, group discussions, and problem-solving tasks has been linked to greater student engagement and long-term retention of anti-tobacco messages.[26] Embedding health literacy and life-skill education within curricula helps create a consistent anti-tobacco narrative across grades. Teachers should also receive ongoing sensitization to detect and counsel at-risk students while maintaining confidentiality and trust.

Parental engagement and family–school collaboration

Parental involvement enhances the bridging social capital of schools by linking home and school health environments. Regular Parent–Teacher Association (PTA) meetings, parenting workshops, and take-home educational materials can align parental attitudes with school norms. Studies have shown that consistent parental communication and supervision reduce adolescent susceptibility to tobacco use even when peer pressure is high.[27,28]

Schools can also establish “parent peer networks” where parents share strategies for maintaining tobacco-free homes. It’s important to counsel parents too because one of the major reasons of tobacco use among adolescents is also home environment.

No-tobacco policies and consistent enforcement

Institutional policies are essential to sustain behavioral change. Strict no-tobacco campus policies covering both smoking and smokeless forms should be visibly enforced through signage, routine inspections, and penalties for violations. Policy visibility enhances shared responsibility and creates a collective understanding of norms within the school community. Integrating such policies into the School Health Programme under Ayushman Bharat and coordinating with local law enforcement can ensure sustained compliance.

Collaboration with health authorities and cultural leaders

Partnerships with local public health departments, NGOs, and community leaders extend the school’s social capital beyond its boundaries. Culturally tailored health campaigns, folk media, and community-based participatory events resonate more strongly in rural and tribal regions where traditional authority figures influence adolescent attitudes. Collaborative initiatives such as the Tobacco-Free Village movement and School Health and Wellness Ambassadors under the National Tobacco Control Programme (NTCP) illustrate how community alignment enhances programme sustainability.[29]

School-based counselling and cessation support

For adolescents already experimenting with tobacco, school-based counselling services and referral mechanisms are vital. Establishing access to trained counsellors or psychologists within schools fosters a non-judgmental support system where students can discuss stress, peer influence, and dependence. Group counselling, motivational interviewing, and mobile-based cessation aids have shown promise in promoting quit attempts among adolescents.[30] Integrating these services within existing Adolescent Friendly Health Clinics (AFHCs) or Rashtriya Kishor Swasthya Karyakram (RKSK) frameworks can optimize resource utilization.

Fostering inclusive extracurricular and service activities

Engagement in extracurricular activities—sports, arts, community service strengthens identity, belonging, and self-efficacy, which are protective against substance use. Schools that promote collective participation in volunteering or social action projects create environments where students internalize civic responsibility and empathy, reinforcing health-promoting norms.

Together, these strategies embody a whole-school approach, transforming schools into cohesive, health-promoting ecosystems that reinforce trust, collaboration, and positive norms across students, teachers, and parents. When aligned with national policies such as NTCP and the School Health Programme, they can substantially contribute to achieving a tobacco-free generation.

GAPS AND FUTURE DIRECTIONS

Although strong associations exist between school social capital and reduced tobacco use, longitudinal and intervention studies from low- and middle-income countries remain limited. Future research should focus on causality using cohort designs, explore the role of digital social networks, and address the needs of vulnerable populations such as tribal and rural adolescents.

CONCLUSION

School social capital offers a sustainable approach to reducing adolescent tobacco use. By fostering trust, cooperation, and a sense of belonging, schools can buffer adolescents against risky behaviours. For India, where prevalence remains high and enforcement inconsistent, integrating social capital-building strategies into school health programs can significantly enhance tobacco control efforts. Policymakers, educators, and public health

professionals should prioritise this approach to ensure healthier, tobacco-free generations. Peer pressure is main cause for adolescents to start an adverse habit, harnessing the school social capital can convert peer pressure the main reason to abstain and also quit the habit.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Jha P, Chaloupka FJ. Curbing the Epidemic: Governments and the Economics of Tobacco Control. Washington DC: World Bank. 1999. Available at: https://www.cghr.org/wordpress/wp-content/uploads/The-economics-of-tobacco-control-2000.pdf. Accessed on 06 October 2025.
2. Goyal A, Sharma A, Agarwal S, Bhansali S, Chhabra KG, Chhabra C. Determinants of Tobacco Use among Children of a Rural Village in India: An Exploratory Qualitative Study. Asian Pac J Cancer Prev. 2020;21(1):81-6.
3. World Health Organization. Global Youth Tobacco Survey – India. 2019. Avaialable at: https://ntcp .mohfw.gov.in/assets/document/surveys-reports-publications/GYTS%204%20Final%20Report.pdf. Accessed on 06 October 2025.
4. Chadda RK, Sengupta SN. Tobacco use by Indian adolescents. Tob Induc Dis. 2002;1(1):8.
5. Khatri S, Kokane N, Khatri K. Comprehensive tobacco control program for Tribal students residing in Ashram schools of Nagpur division - population-based cross-sectional study. Tobacco Induced Dis. 2025;23(1):A37.
6. Putnam RD. Bowling Alone: The Collapse and Revival of American Community. New York: Simon & Schuster. 2000. Available at: https://communis tcaucus.com/wp-content/uploads /2021/12/Bowling-Alone.pdf. Accessed on 06 October 2025.
7. Warren CW, Riley L, Asma S, Eriksen MP, Green L, Blanton C, et al. Tobacco use by youth: a surveillance report from the Global Youth Tobacco Survey project. Bull World Health Organ. 2000;78(7):868-76.
8. Narain R, Sardana S, Gupta S, Sehgal A. Age at initiation and prevalence of tobacco use among school children in Noida, India: A cross-sectional questionnaire-based survey. Indian J Med Res. 2011;133(3):300-7.
9. Takakura M. Does social trust at school affect students' smoking and drinking behavior in Japan? Soc Sci Med. 2011;72(2):299-306.
10. Tuominen M, Haanpää L. Young people's well-being and the association with social capital. Soc Indic Res. 2022;159(2):617-45.
11. Morgan A, Haglund BJ. Social capital does matter for adolescent health: Evidence from the English HBSC study. Health Promot Int. 2009;24(4):363-72.
12. McNeely C, Falci C. School connectedness and the transition into and out of health-risk behavior among adolescents: A comparison of social belonging and teacher support. J Sch Health. 2004;74(7):284-92.
13. Vieno A, Santinello M, Galbiati E, Perkins DD. Social capital and self-reported health: A multilevel study of Italian adolescents. Soc Sci Med. 2007;66(11):2329-36.
14. Bond L, Butler H, Thomas L, Carlin J, Glover S, Bowes G, et al. Social and school connectedness in early secondary school as predictors of late teenage substance use, mental health, and academic outcomes. J Adolesc Health. 2007;40(4):357.e9-18.
15. Karvonen S, Rimpelä AH, Rimpelä MK. Social context and adolescent health behavior: The role of school and neighbourhood. Health Educ Res. 1999;14(4):485–96.
16. Resnick MD, Bearman PS, Blum RW, Bauman KE, Harris KM, Jones J, et al. Protecting adolescents from harm. Findings from the National Longitudinal Study on Adolescent Health. J Am Med Assoc. 10;278(10):823-32.
17. Wentzel KR. Social relationships and motivation in middle school: The role of parents, teachers, and peers. J Educ Psychol. 1998;90(2):202-9.
18. Valente TW, Fujimoto K. Bridging peer influence research and social network analysis in adolescent smoking behaviour. Subst Use Misuse. 2010;45(1–2):182-9.
19. Hoy WK, Tarter CJ, Woolfolk AE. Organizational climate, school health, and effectiveness: A comparative analysis. Educ Adm Q. 1991;27(3):263-81.
20. Denny SJ, Robinson EM, Utter J, Fleming TM, Grant S, Milfont TL, et al. Do schools influence student risk-taking behaviors and emotional health symptoms? J Adolesc Health. 2011;48(3):259-67.
21. Langille DB, Curtis L, Hughes J, Murphy GT. Association of socioenvironmental factors with health risk behaviors among high school students in rural Nova Scotia. J Adolesc Health. 2008;43(3):247-54.
22. Morgan A, Ziglio E. Revitalising the evidence base for public health: An assets model. Promot Educ. 2007;14:17-22.
23. Bandura A. Social cognitive theory and the social origins of behavior. In: Marks DF, editor. The Health Psychol Reader. 2002;94-106.
24. Sharma R, Grover VL, Chaturvedi S. Effectiveness of a school-based, peer-led tobacco use prevention program among adolescents in Delhi: A cluster randomized trial. Indian J Community Med. 2017;42(3):204-9.
25. Ministry of Health and Family Welfare, Government of India. Youth Against Tobacco Initiative. NTCP Annual Report. 2021. Available at: https://ntcp. mohfw.gov.in/. Accessed on 06 October 2025.
26. Thomas RE, McLellan J, Perera R. Effectiveness of school-based smoking prevention curricula:

Systematic review and meta-analysis. BMJ Open. 2015;5(3):e006976.
27. Reddy KS, Perry CL, Stigler MH, Arora M. Differences in tobacco use among young people in urban India by sex, socioeconomic status, and age. Prev Med. 2006;42(5):454-60.
28. Simons-Morton BG, Farhat T. Recent findings on peer group influences on adolescent smoking. J Prim Prev. 2010;31(4):191-208.
29. National Tobacco Control Programme. School Health and Wellness Ambassadors Framework. MoHFW. 2022. Available at: https://nhm.gov.in /index1.php?lang=1&level=2&sublinkid=1052&lid =607. Accessed on 06 October 2025.
30. Sussman S, Sun P, Dent CW. A meta-analysis of teen cigarette smoking cessation. Health Psychol. 2006;25(5):549-57.

Cite this article as: Kokane N, Gade V, Patil R, Walke D, Rewatkar K. Harnessing school social capital to curb adolescent tobacco use. Int J Contemp Pediatr 2026;13:126-30.