

Family Environment, Peer Pressure, and Social Media Exposure in Relation to Substance-Use Experience Among Adolescents in Pattambi Block, Kerala

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Abstract: Adolescent substance use occurs within interconnected family, peer, and digital contexts. This study examined family environment, peer pressure, and social-media exposure in relation to reported substance-use experience among adolescents in Pattambi Block, Palakkad district, Kerala. A quantitative, descriptive-correlational, cross-sectional design was used. Seventy-four adolescents aged 11–19 years were recruited through convenience sampling. Data were collected using a structured questionnaire covering family environment, peer pressure, social-media exposure, and substance-use behaviour. Descriptive statistics, Pearson correlation, reliability analysis, and multiple linear regression were used. Among 74 participants, 36 (48.6%) reported trying tobacco/smoking, 37 (50.0%) reported trying alcohol, and 32 (43.2%) reported trying both. Family environment was inversely associated with reported substance-use experience ($r = -.482, p < .001$), whereas peer pressure ($r = .579, p < .001$) and social-media exposure ($r = .386, p < .001$) showed positive associations. The regression model was significant, $F(3, 70) = 14.89, p < .001$, explaining 39.0% of the variance ($R^2 = .390$; adjusted $R^2 = .363$). Peer pressure ($\beta = .421, p = .002$) and social-media exposure ($\beta = .214, p = .035$) made significant unique contributions; family environment did not ($\beta = -.132, p = .310$). A more supportive family environment was associated with less reported substance-use experience, while greater peer pressure and social-media exposure were associated with greater reported experience. Because the study was cross-sectional, these findings represent associations and do not establish causality.

Keywords: adolescent substance use; family environment; peer pressure; social media exposure; tobacco; alcohol; Pattambi; Kerala

1. Introduction

Adolescence is a period of substantial psychological, social, emotional, and behavioural development. During this period, relationships outside the family become increasingly influential while decision-making and self-regulation continue to develop. Exposure to tobacco, alcohol, and other substances therefore represents an important developmental and public-health concern.

Adolescent substance-use behaviour is shaped by a broader social environment that includes family relationships, parental monitoring, peer interactions, community conditions, and digital settings. Social Learning Theory, Social Identity Theory, Problem Behavior Theory, Uses and Gratifications Theory, Family Systems Theory, and Social Control Theory provide complementary perspectives for considering these influences.

Family relationships may function as a protective context through communication, emotional support, parental knowledge, guidance, and appropriate monitoring. Conversely, family conflict and limited monitoring may be associated with greater vulnerability. Peer relationships are also important because acceptance, conformity, friendship norms, and direct or indirect exposure to substance use can influence behaviour. Social media provides an additional setting in which adolescents may encounter substance-related posts, influencers, advertisements, and peer content.

Research has identified family management, parental monitoring, peer influence, and broader social conditions as relevant risk and protective factors in adolescent substance

use (Hawkins et al., 1992). Adolescents may also show heightened sensitivity to social influence and risk-taking during this developmental period (Steinberg, 2004). Prevention guidance consequently emphasizes strengthening protective family and social factors (World Health Organization, 2018; United Nations Office on Drugs and Crime, 2020).

However, limited evidence is available on the combined relationship of family environment, peer pressure, and social-media exposure with substance-use experience among adolescents in Pattambi Block.

2. Review of Relevant Literature

2.1 Family Environment and Adolescent Substance Use

Parenting practices, parental monitoring, communication, and support are relevant to adolescent substance-use outcomes. Recent reviews have identified monitoring and supportive parenting as important prevention components, although effects vary across contexts (Abar et al., 2025; Pinquart & Reeg, 2025; Williams et al., 2023). Indian evidence also indicates that substance use within family and community settings is relevant to adolescent substance-use behaviour (Srivastava et al., 2021). Kerala research has further documented substance-related harm occurring within adolescents' social surroundings (Jaisooriya et al., 2018).

2.2 Peer Influence and Substance Use

Peer relationships become increasingly relevant during adolescence. Peer networks can provide support but may

also involve pressure to conform or exposure to substance use. Systematic and longitudinal evidence has examined peer connectedness and peer social networks in relation to adolescent substance use (Cole et al., 2024; Torrejón-Guirado et al., 2023). Studies among Indian and Kerala adolescents similarly support consideration of peer and school contexts (Batra et al., 2021; Jayakrishnan et al., 2016).

2.3 Social-Media Exposure and Substance Use

Social media expands adolescents' exposure to substance-related material and perceived social norms. Research has reported associations between social-media use or exposure to substance-related content and substance-use outcomes (Vannucci et al., 2020; Liu et al., 2024; Li et al., 2025). Reviews have also examined alcohol-related engagement and tobacco- or vaping-related content on social media (Cheng et al., 2024; Rutherford et al., 2023; Purba et al., 2023).

2.4 Indian and Kerala Context

National evidence documents the magnitude and pattern of substance use in India (Ambekar et al., 2019). Kerala-specific studies have examined adolescent alcohol use and tobacco/alcohol use in school and rural populations (Jaisoorya et al., 2016; Jayakrishnan et al., 2016). The present study extends this contextual literature by examining family, peer, and digital factors jointly among adolescents in Pattambi Block.

3. Objectives

- To assess reported substance-use experience among adolescents in Pattambi Block.
- To assess the family environment of adolescents.
- To assess the degree of peer pressure experienced by adolescents.
- To assess social-media exposure, including contact with substance-related content.
- To examine the relationship between family environment and reported substance-use experience.
- To examine the relationship between peer pressure and reported substance-use experience.
- To examine the relationship between social-media exposure and reported substance-use experience.
- To assess the combined contribution of family environment, peer pressure, and social-media exposure to reported substance-use experience.

Hypotheses: H1, family environment is significantly related to reported substance-use experience; H2, peer pressure is significantly related to reported substance-use experience; H3, social-media exposure is significantly related to reported substance-use experience; H4, family environment, peer pressure, and social-media exposure jointly make a significant contribution to prediction of reported substance-use experience.

4. Methodology

4.1 Research Design and Setting

A quantitative, descriptive-correlational, cross-sectional design was adopted. The study was conducted among adolescents in Pattambi Block, Palakkad district, Kerala.

4.2 Participants and Sampling

The sample comprised 74 adolescents aged 11–19 years enrolled in high schools, higher secondary schools, or colleges within Pattambi Block. Participants were recruited through non-probability convenience sampling.

4.3 Instruments and Scoring

Data were collected using a structured questionnaire. Section A covered demographic information. Section B contained 10 family-environment items adapted from the Family Environment Scale and Parental Monitoring Scale. Section C contained 10 peer-pressure items adapted from the Peer Pressure Inventory. Section D contained 10 social-media-exposure items adapted from the Social Media Use Integration Scale and adolescent media-exposure measures. Section E contained 10 substance-use-behaviour items adapted from the WHO Global School-based Student Health Survey and Youth Risk Behavior Survey.

Sections B–E used a five-point response scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, and 5 = Strongly Agree. Reverse-coded items were B7 and B8, C4 and C10, D7 and D10, and E8. Higher family-environment scores represented a more supportive environment, whereas higher peer-pressure and social-media scores represented greater exposure or influence. The main reported substance-use-experience construct used E3–E5 and represented reported experience/experimentation rather than a clinical diagnosis.

4.4 Reliability

Measure	M	SD	Cronbach's α
Family environment	3.74	1.02	.894
Peer pressure	2.49	0.57	.491
Social-media exposure	2.84	0.46	.390

The peer-pressure and social-media composites showed low internal consistency; their findings should therefore be interpreted cautiously.

4.5 Procedure and Ethics

Participation was voluntary, with consent/assent obtained as applicable. The questionnaire was administered through Google Forms. Personally identifying details were excluded from the analysis dataset. Confidentiality and privacy were maintained, participants retained the right to withdraw, and data were handled securely.

4.6 Statistical Analysis

Frequencies, percentages, means, and standard deviations were used for descriptive analysis. Pearson's correlation coefficient was used to examine associations among family environment, peer pressure, social-media exposure, and reported substance-use experience. Multiple linear regression was used to assess the combined contribution of the three predictors. Statistical significance was set at $p < .05$.

5. Results

5.1 Reported Substance-Use Experience

Reported experience	n	%
Tobacco/smoking trial	36	48.6
Alcohol trial	37	50.0
Both tobacco/smoking and alcohol	32	43.2

Of the 74 participants, 36 (48.6%) reported trying tobacco/smoking, 37 (50.0%) reported trying alcohol, and 32 (43.2%) reported trying both. These categories represent self-reported experimentation and should not be interpreted as a clinical diagnosis.

5.2 Pearson Correlations

Predictor	r with reported substance-use experience	p-value	Direction
Family environment	-.482	< .001	Inverse
Peer pressure	.579	< .001	Positive
Social-media exposure	.386	< .001	Positive

Family environment showed a statistically significant inverse association with reported substance-use experience. Peer pressure and social-media exposure showed statistically significant positive associations. Because the study was cross-sectional, these relationships should not be interpreted as causal effects.

5.3 Multiple Linear Regression

Predictor	B	SE	β	t	p
Family environment	-0.126	0.123	-.132	-1.022	.310
Peer pressure	0.723	0.223	.421	3.244	.002
Social-media exposure	0.449	0.208	.214	2.155	.035

The overall regression model was statistically significant, $F(3, 70) = 14.89$, $p < 0.001$, with $R^2 = 0.390$ and adjusted $R^2 = 0.363$. Thus, the three predictors collectively accounted for 39.0% of the variance in reported substance-use experience. Peer pressure and social-media exposure made statistically significant unique contributions after adjustment for the other predictors, whereas family environment did not.

6. Discussion

6.1 Interpretation of Major Findings

The study found that around one-half of participants reported trying alcohol or tobacco/smoking. These figures are numerically higher than those reported in some earlier Kerala studies, including Jaisooriya et al. (2016) and

Jayakrishnan et al. (2016). However, differences in measures, age groups, settings, and sampling mean that the present figures should not be treated as directly comparable prevalence estimates.

6.2 Family Environment and Substance Use

A supportive family environment was inversely associated with reported substance-use experience ($r = -0.482$, $p < 0.001$). This finding is consistent with literature emphasizing parental monitoring, parental knowledge, communication, and support as potentially protective factors (Abar et al., 2025; Pinquart & Reeg, 2025; Layman et al., 2025). In the multivariable model, however, family environment did not make a statistically significant unique contribution ($\beta = -0.132$, $p = 0.310$). This difference between the bivariate and adjusted findings indicates that its association with the outcome overlaps with the other social-context variables included in the model.

6.3 Peer Pressure and Substance Use

Peer pressure showed the largest bivariate association with reported substance-use experience ($r = 0.579$, $p < 0.001$) and also made the largest statistically significant unique contribution in the regression model ($\beta = 0.421$, $p = 0.002$). This pattern is consistent with evidence highlighting the relevance of adolescent peer networks to substance-related behaviour (Cole et al., 2024; Torrejón-Guirado et al., 2023). The cross-sectional design does not establish direct peer causation, and peer selection may also contribute to the observed relationship.

6.4 Social-Media Exposure and Substance Use

Social-media exposure was positively associated with reported substance-use experience ($r = 0.386$, $p < 0.001$) and remained significant in the regression model ($\beta = 0.214$, $p = 0.035$). This is broadly consistent with research examining social-media use and exposure to alcohol-, tobacco-, and drug-related content among young people (Vannucci et al., 2020; Liu et al., 2024; Cheng et al., 2024; Rutherford et al., 2023). The present measure included exposure to smoking- or drinking-related posts, influencers, friends' posts, and perceptions of social-media influence rather than only time spent online.

6.5 Comparison with Previous Literature

Overall, the findings support a multifactorial interpretation of adolescent substance-use experience involving family, peer, and digital contexts. Indian and Kerala studies provide contextual evidence for adolescent tobacco and alcohol use, while recent systematic reviews and meta-analyses emphasize family protection, peer networks, and digital exposure. The present study adds a local Pattambi Block perspective by examining these domains together.

7. Implications

For families, the findings support attention to communication, awareness of adolescents' activities and friendships, supportive parenting, and appropriate

monitoring. Schools may incorporate substance-use education, refusal and decision-making skills, peer-pressure management, and critical digital-media literacy. Counsellors and community programmes may consider interventions that address family, peer, school, and digital contexts together. These implications are preventive and should not be interpreted as evidence that any single factor causes substance use.

8. Limitations

- The sample was relatively small ($N = 74$) and was obtained through convenience sampling.
- The cross-sectional design does not establish temporal sequence or causal relationships.
- Substance-use responses were self-reported and may have been affected by recall or social-desirability bias.
- The questionnaire contained adapted items from several established instruments.
- Peer-pressure and social-media-exposure composites had low internal consistency ($\alpha = .491$ and $.390$).
- The study focused mainly on tobacco- and alcohol-related experiences rather than the full range of psychoactive substances.
- Self-reported social-media exposure may not fully represent the amount or specific nature of substance-related content encountered.
- The local, convenience-based sample limits generalisability beyond the study setting.

9. Scope for Further Research

Future studies should include larger and more diverse samples and, where feasible, probability-based sampling. Longitudinal designs could clarify temporal patterns. Future research may examine variation by age, gender, school type, family structure, academic performance, socioeconomic characteristics, and social-media-use patterns. Intervention studies could evaluate parental-monitoring programmes, school-based prevention, peer-resistance training, and digital-media literacy. Qualitative research could further explore adolescents' experiences of peer pressure, family relationships, and substance-related online content.

10. Conclusion

The study identified significant associations among family environment, peer pressure, social-media exposure, and reported substance-use experience among adolescents in Pattambi Block. A supportive family environment showed an inverse association with reported substance-use experience, whereas peer pressure and social-media exposure showed positive associations. The three predictors collectively explained 39.0% of the variance, with peer pressure and social-media exposure making significant unique contributions in the multivariable model. Because the study was cross-sectional, these findings should be understood as associations rather than causal effects.

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Appendix A – Study Questionnaire

Section A: Demographic Information

- Age
- Gender
- Class
- Type of school
- Place of residence
- Family type
- Parents' education
- Parents' occupation
- Monthly family income
- Daily social-media use
- Academic performance
- Ever used tobacco/alcohol (Yes/No)

Section B: Family Environment

Adapted from the Family Environment Scale (FES) and Parental Monitoring Scale.

- B1. My parents know where I am after school.
- B2. My parents know who my close friends are.
- B3. I can talk to my parents when I have a problem.
- B4. My parents listen to my opinions.
- B5. My parents tell me that smoking, alcohol, and drugs are harmful.
- B6. My parents know how I spend my free time.
- B7. My parents rarely know what I do after school. (Reverse)
- B8. There are frequent arguments in my family. (Reverse)
- B9. My parents encourage me to make good decisions.
- B10. I feel safe and supported in my family.

Section C: Peer Pressure

Adapted from the Peer Pressure Inventory (PPI).

- C1. My friends encourage me to make good choices.
- C2. Some of my friends smoke or drink alcohol.
- C3. My friends have asked me to try smoking or alcohol.
- C4. I find it difficult to say “No” to my friends. (Reverse)
- C5. I want my friends to accept me.
- C6. I avoid friends who have bad habits.
- C7. My friends respect my decisions.
- C8. I would refuse if a friend offered me tobacco or alcohol.
- C9. My friends influence many of my decisions.
- C10. I do things just to fit in with my friends. (Reverse)

Section D: Social Media Exposure

Adapted from the Social Media Use Integration Scale (SMUIS) and adolescent media-exposure measures.

- D1. I use social media every day.
- D2. I spend more than four hours a day on social media.
- D3. I often see posts showing smoking or drinking.
- D4. Social media makes smoking or drinking look attractive.
- D5. I follow celebrities or influencers on social media.
- D6. What I see on social media affects my thoughts.
- D7. I believe everything I see on social media. (Reverse)
- D8. I ignore posts that encourage harmful habits.
- D9. I have seen my friends post pictures of smoking or drinking.
- D10. Social media has no influence on young people. (Reverse)

Section E: Substance-Use-Related Items

Adapted from the WHO Global School-based Student Health Survey (GSHS) and Youth Risk Behavior Survey (YRBS).

- E1. I know smoking is harmful to health.
- E2. I know drinking alcohol is harmful to health.
- E3. Someone has offered me tobacco or alcohol.
- E4. I have tried smoking or tobacco.
- E5. I have tried alcohol.
- E6. Using tobacco or alcohol can affect my studies.
- E7. I know where to get help if someone has a substance problem.
- E8. It is okay for students my age to smoke or drink alcohol. (Reverse)
- E9. I can say “No” if someone offers me tobacco or alcohol.
- E10. Schools should educate students about the dangers of substance use.

Response Scale

Score Response

- 1 Strongly Disagree
- 2 Disagree
- 3 Not Sure
- 4 Agree
- 5 Strongly Agree