

ORIGINAL ARTICLE

Social Factors Shaping Substance Use Patterns: A Comprehensive Study on Peer Influence, Socioeconomic Context, and Behavioral Trends

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doi: 10.22442/jlumhs.2026.01518

ABSTRACT

OBJECTIVE: To determine the prevalence, trends, and associations of substance use in adults in terms of demographics, peer and family factors, socioeconomic, and psychological factors.

METHODOLOGY: This cross-sectional research study was performed at the Department of Psychiatry, PNS Shifa Hospital, Karachi, from January to July 2024. 340 adults (18 years and above, all using substances like Crystal, Heroin, Powder, Tar yak, Token or Tanzania) were included using a non-probability consecutive sampling technique. Psychiatric and psychological tests were done, along with urine drug panel and alcohol tests. Self-report questionnaires on substance use in the preceding two weeks and socio-demographic information were also self-documented by the participants. Data were analyzed using SPSS v27.

RESULTS: Forty percent of the participants reported lifetime use of a substance. Tobacco (20.6%), alcohol (9.1%), and cannabis (5.0%) were found to be the most common substances. Substance use was more common in males, individuals with a lower level of education and those who had peer substance use, a family history of substance use, financial stress, or easy access to neighborhood. Behavioral and psychological correlates were coping with stress (53.7%), risk-taking (45.6%), and anxiety/depression symptoms (40.4%). Academic/work impairment (35.3%) and family conflict (30.9%) were both considered functional.

CONCLUSION: Adult substance use is shaped by interrelated demographic, social, and psychological factors. Far-reaching initiatives that cover family and peer pressure, mental health, economic stress, access to the environment, and educational involvement should be implemented to minimize substance-related damage.

KEYWORDS: Adult, Alcohol Drinking, Cannabis, Substance Use, Substance-Related Disorders, Tobacco Use Disorder.

INTRODUCTION

Substance use disorder is a pattern of maladaptive behaviors resulting in clinically severe impairment or distress to oneself or others that may influence their capacity to maintain physical or psychological health, their personal safety, relationships with others, occupational, role-related, and responsibility among other functions¹. According to the WHO, more than 35 million individuals in the world experience drug use disorder, wherein psychoactive drugs, including alcohol, cocaine, cannabis, and opioids, have been the primary causes².

Drug use in Pakistan is rated the highest in the world, with more than 6.7 million individuals being on drugs¹. Contrary to the increasing tendencies of crystal methamphetamine and sheesha smoking in urban and middle classes, cannabis is actively used by more than a quarter of the youth in the country regularly³.

The mental health, cognitive, social, family, and socioeconomic status of individuals determine their drug usage patterns⁴. Individuals will tend to turn to drugs as an evasion or response to their inability to develop personally in sectors where poverty and unemployment are high⁵. Examples of social networks that can normalize use of substances include family and close friends, making it easier to access and use drugs⁶.

Another study of 1,790 men found that married men consumed less alcohol, tobacco and cannabis compared with single or divorced men. Although tobacco consumption fell post-marriage, alcohol and cannabis consumption cuts preceded marriage, indicating that the effect is likely to be causal, and that marriage and the expectations of social roles tend to decrease substance use⁷.

Another recent study conducted on drug use among Pakistani women revealed that educational attainment and socioeconomic status of drug users varied significantly, which means that these related social and economic factors can also be the reason behind the substance use behaviors⁸.

In general, the study demonstrates that despite numerous studies and groups underpinning the association of various environmental, psychological, and demographic factors with drug use, the level and reliability of associations vary significantly. Nevertheless, limited research studies have explicitly measured these associations in Pakistani populations. Hence, the given study attempts to establish the relationship between demographic, social, psychological, and behavioral factors and substance use in people aged between 18 and 60 years.

METHODOLOGY

This cross-sectional study was conducted at the Department of Psychiatry, PNS Shifa Hospital, Karachi, from January to July 2024. Non-probability consecutive sampling technique was utilized. All eligible participants presenting during the study period fulfilling the inclusion criteria were recruited until the required sample size was achieved. Adults aged 18 years and above, active users of prescription or illegal substances, including Crystal, Heroin, Powder, Tar yak, Token, and Tanzania, patients admitted to healthcare centers for substance use assessment or treatment, and participants who scored ≥ 1 (slight or above) on the drug addiction items in the DSM-5 Level 1 Cross-Cutting Symptom Measure—Adult were included. Non-users of substances (those scoring below 1 on DSM-5 Level 1 drug addiction items), patients with only other mental disorders and no substance use history, and female patients who declined participation due to social stigma were excluded.

A total of 340 subjects were included; the sample size was calculated using 33% of drug use in teenagers at a 5% margin of error and 95% confidence⁹. The sample size was calculated using the WHO sample size formula for estimating a single population proportion. A total of 340 subjects were included in this study after obtaining ethical permission (ERC/2023/PSY/74). Informed consent was obtained from them before the study. A psychiatrist conducted a physical and clinical examination, and a psychologist evaluated the mental and emotional statuses of the participants to determine whether they met the DSM-5 criteria for substance use disorder (SUD). The diagnosis was conducted using the DSM-5 criteria, where patterns of use are considered in a way that greatly impairs functioning or causes distress, urges, loss of control, persistence despite consequences, tolerance, withdrawal and overall severity (mild, moderate or severe). Additionally, a dichotomous sociodemographic questionnaire was used to assess awareness, effects of substance use, and other contextual variables. In contrast, a self-report measure was used to evaluate prescription and illegal substance use in the last two weeks.

After being anonymized, all data were stored in a secure database for further statistical analysis. Version 27 of the Statistical Package for the Social Sciences (SPSS) was used to analyze the data. Study variables were summarized using descriptive statistics. Continuous variables were reported as mean $\pm$ standard deviation, along with minimum and maximum values. Categorical variables were reported as frequencies and percentages. For association analysis, the Chi-square test or Fisher's exact test was conducted to analyze categorical variables, and the independent samples t-test was used to compare continuous variables between groups. A p-value of <0.05 was considered statistically significant. The purpose was to characterize the clinical characteristics, referral patterns, sociodemographic traits, and service consumption of patients who came to the emergency room for mental health consultation.

RESULTS

A total of 340 participants were included in the analysis. The mean age of the participants was 34.11 ± 8.46 years (range: 18-61 years). (**Table I**) Among the 340 respondents, 251 (73.8%) were male, and 89 (26.2%) were female. Educational attainment showed that 111 (32.6%) were graduates, 108 (31.8%) were undergraduates, and 54 (15.9%) were postgraduates. Most participants were employed (248; 72.9%).

Overall, 136 participants (40.0%) reported lifetime substance use, while 204 (60.0%) reported no use. (**Table II**) Age at first substance use was available for 169 participants, with a mean initiation age of 20.15 ± 4.35 years, ranging from 12 to 30 years. Cigarette/tobacco was the most common primary substance, reported by 70 participants (20.6% overall). Multi-substance use was reported by 288 participants (84.7%), while 52 (15.3%) denied it.

Regarding social context, 218 (64.1%) reported that close friends used substances. Participants reported substance involvement in social gatherings as sometimes by 121 (35.6%) and often by 120 (35.3%). About 173 (50.9%) participants reported experiencing financial stress in the previous year. A family history of substance use was present in 121 (35.6%), and 197 (57.9%) reported easy neighborhood access to substances.

Behavioral characteristics showed that 97 (28.5%) used substances to cope with stress, and 184 (54.1%) had screen time exceeding four hours per day. Symptoms of anxiety/depression were reported by 97 participants (28.5%). Academic or work performance was affected in 62 (18.2%) participants, and 59 (17.4%) reported family conflict due to substance use. Among users only ($n = 136$), 82 participants (60.3%) were willing to quit, while 54 (39.7%) were unwilling to quit. (**Table II**)

Associations between categorical variables were assessed using the Chi-square test, and p -values < 0.05 were considered statistically significant. When stratified by substance-use status, gender showed a strong association with substance use. Among users, 130 (95.6%) were male, compared to 121 (59.3%) among non-users ($p < 0.001$). Education level was statistically associated with substance use ($p < 0.001$). Peer and social influences were strongly associated with substance use. Among users, 91.2% reported close friends using substances, compared to 46.1% among non-users ($p < 0.001$). Substance-related social gatherings were reported as “often” by 64.0% of users, compared to 16.2% of non-users ($p < 0.001$).

Socioeconomic factors also showed significant associations. Financial stress was reported by 61.0% of users versus 44.1% of non-users ($p = 0.002$). Family history of substance use was present in 55.1% of users compared to 22.5% of non-users ($p < 0.001$). Easy neighborhood access was reported by 77.9% of users, significantly higher than 44.6% among non-users ($p < 0.001$). Behavioral and psychological correlates were prominent. Substance use for coping was reported by 53.7% of users compared to 11.8% of non-users ($p < 0.001$). Risk-taking behavior was observed in 45.6% of users versus 21.1% of non-users ($p < 0.001$). Anxiety/depression symptoms were more frequent among users (40.4%) than non-users (20.6%) ($p < 0.001$). Functional consequences were significant. Academic/work impairment was reported by 35.3% of users compared to 6.9% of non-users ($p < 0.001$). Family conflict was reported by 30.9% of users versus 8.3% of non-users ($p < 0.001$). Screen time exceeding four hours per day did not differ significantly between groups ($p = 0.722$). **Table III**

Table I: Descriptive statistics of continuous variables (n=340)

Variable	n (valid)	Mean $\pm$ SD	Min–Max	Range
Age (years)	340	34.11 $\pm$ 8.46	18–61	43
Age at first use (years)	169	20.15 $\pm$ 4.35	12–30	18

Note: “Age at first use” is available only for participants with valid data (n=169).

Table II: Characteristics of participants and key social factors related to substance use (n=340)

Variable	Category	n (%)
Gender	Male	251 (73.8)
	Female	89 (26.2)
Marital status	Single	113 (33.2)
	Married	210 (61.8)
	Others	17 (5.0)
Education level	No formal	17 (5.0)
	Primary	50 (14.7)
	Undergraduate	108 (31.8)
	Graduate	111 (32.6)
	Postgraduate	54 (15.9)
Employment status	Student	34 (10.0)
	Unemployed	58 (17.1)
	Employed	248 (72.9)
Substance use (ever)	No	204 (60.0)
	Yes	136 (40.0)
Main substance use (overall)	None	204 (60.0)
	Cigarette/Tobacco	70 (20.6)
	Alcohol	31 (9.1)
	Cannabis	17 (5.0)
	Opioids	3 (0.9)
	Stimulants	6 (1.8)
	Others	9 (2.6)
Multi-substance use	Yes	288 (84.7)
	No	52 (15.3)
Close friends use substances	No	122 (35.9)
	Yes	218 (64.1)
Ever pressured by peers to use	No	247 (72.6)
	Yes	93 (27.4)
Social gatherings involve substance use	Rarely	99 (29.1)
	Sometimes	121 (35.6)
	Often	120 (35.3)
Financial stress (past year)	No	167 (49.1)
	Yes	173 (50.9)
Family member uses substances	No	219 (64.4)

ONLINE FIRST

	Yes	121 (35.6)
Neighborhood easy access to substances	No	143 (42.1)
	Yes	197 (57.9)
Use substances to cope with stress	No	243 (71.5)
	Yes	97 (28.5)
Screen time (>4 hrs/day)	No	156 (45.9)
	Yes	184 (54.1)
Risk-taking behavior	No	235 (69.1)
	Yes	105 (30.9)
Symptoms of anxiety/depression	No	243 (71.5)
	Yes	97 (28.5)
Academic/work performance affected	No	278 (81.8)
	Yes	62 (18.2)
Family conflict due to use	No	281 (82.6)
	Yes	59 (17.4)
Willing to quit (<i>users only</i>)	No	54/136 (39.7)
	Yes	82/136 (60.3)

“Willing to quit” was recorded only for participants reporting substance use (valid n=136); non-users were system-missing.

Table III: Social and socioeconomic factors associated with substance use (N=340)

Variable	Category	Non-users (n=204)	Users (n=136)	p-value
Age groups (years)	< 40	153(75.0%)	109(80.1%)	0.269
	40-61	51(25.0%)	27(19.9%)	
Gender	Male	121 (59.3)	130 (95.6)	<0.001
	Female	83 (40.7)	6 (4.4)	
Marital status	Single	68 (33.3)	45 (33.1)	0.646
	Married	124 (60.8)	86 (63.2)	
	Others	12 (5.9)	5 (3.7)	
Education level	No formal	4 (2.0)	13 (9.6)	<0.001
	Primary	20 (9.8)	30 (22.1)	
	Undergraduate	70 (34.3)	38 (27.9)	
	Graduate	78 (38.2)	33 (24.3)	
	Postgraduate	32 (15.7)	22 (16.2)	
Employment status	Student	21 (10.3)	13 (9.6)	0.770
	Unemployed	37 (18.1)	21 (15.4)	
	Employed	146 (71.6)	102 (75.0)	
Close friends use substances	No	110 (53.9)	12 (8.8)	<0.001
	Yes	94 (46.1)	124 (91.2)	
Ever pressured by peers	No	178 (87.3)	69 (50.7)	<0.001
	Yes	26 (12.7)	67 (49.3)	
Social gatherings involve substances	Rarely	82 (40.2)	17 (12.5)	<0.001
	Often	33 (16.2)	87 (64.0)	
	Sometimes	89 (43.6)	32 (23.5)	
Financial stress (past year)	No	114 (55.9)	53 (39.0)	0.002
	Yes	90 (44.1)	83 (61.0)	
Family member uses substances	No	158 (77.5)	61 (44.9)	<0.001
	Yes	46 (22.5)	75 (55.1)	
Neighborhood easy access	No	113 (55.4)	30 (22.1)	<0.001
	Yes	91 (44.6)	106 (77.9)	
Use to cope with stress	No	180 (88.2)	63 (46.3)	<0.001
	Yes	24 (11.8)	73 (53.7)	
Screen time (>4 h/day)	No	92 (45.1)	64 (47.1)	0.722
	Yes	112 (54.9)	72 (52.9)	
Risk-taking behavior	No	161 (78.9)	74 (54.4)	<0.001
	Yes	43 (21.1)	62 (45.6)	
Anxiety/depression symptoms	No	162 (79.4)	81 (59.6)	<0.001
	Yes	42 (20.6)	55 (40.4)	
Academic/work performance affected	No	190 (93.1)	88 (64.7)	<0.001
	Yes	14 (6.9)	48 (35.3)	
Family conflict due to use	No	187 (91.7)	94 (69.1)	<0.001
	Yes	17 (8.3)	42 (30.9)	

DISCUSSION

Substance abuse is characterized as a repeated, relapsing cycle of compulsive alcohol or drug use that has harmful impacts on the lives of the individual in terms of occupational, job, legal issues, physical and mental well-being, among others¹⁰. Unfavourable outcomes include unemployment or lack of education, lawsuits, family and marital problems, unstable finances, and social exclusion¹¹.

In the present study, demographic, social, and psychological characteristics of the participants were assessed, along with the prevalence of drug use; 40% of the participants in this study confirmed that they have used drugs at least once in their lives. These findings are consistent with other research findings that alcohol and tobacco are the most frequently used drugs. A cross-sectional study on the use of substances (smoking (20.8%), drug use (10.1%), and alcohol consumption (9.9%) among Bangladeshi young and adult populations¹². This observation is further corroborated by Pakistani research, which revealed that 44.1% of them sometimes had the urge to use drugs, in which case tobacco was the most used drug¹³.

The difference in the use of drugs among genders showed a significant difference, where males used drugs much more than females. This finding is consistent with other studies which have established that men were more likely to smoke and drink compared to women¹². Likewise, Choudhary et al. (2025) observed a lifetime drug use prevalence of 40.5%, with alcohol (49.0%) and tobacco (40.5%) being the most often used substances. Peer drug use (OR = 6.31; 95% CI: 3.94–10.12), male gender (OR = 3.02; 95% CI: 1.94–4.71), and family history (OR = 3.12; 95% CI: 1.99–4.88) were significant predictors. Additionally, substance users were more likely to have mental health comorbidities (76.5% vs 41.2%, $p < 0.001$). In a similar vein, our study reported a 40.0% prevalence of drug use, which was substantially correlated with male gender, peer pressure, family history, and anxiety/ depression¹⁴.

In our study, education level was also significantly correlated with substance use, which aligns with previous studies¹⁵.

Regarding peer and social effects, a fairly good proportion of the users reported that they frequently attended parties when drugs were being served, that their close friends used drugs (91.2%), and that they were pressured by their peers (49.3%). These results are in line with the meta-analytic review that has indicated that peer networks play an important role in influencing drug use behaviors¹⁶. A recent Pakistani research study of street youths in Islamabad found that 37% had used drugs, with cigarettes (64.3%), naswaar (38.8%), and hashish (32.5%) being the most frequently used substances. Age >16 years (OR = 2.3), sleeping on the streets (OR = 2.4), greater monthly income (OR = 1.6), drug use by friends (OR = 5.0), and engagement in drug selling (OR = 10.3) were all found to be independent predictors of narcotic use by multivariate analysis. These results support the significant influence of socioeconomic and peer variables on drug use behaviors¹⁷.

In our study, the environmental and socioeconomic characteristics also significantly correlated with drug utilization. Previous studies revealed that social and demographic factors, including family situations and money, greatly influence the psychological functioning of drug users¹⁸. As demonstrated by a study conducted in Malaysia, economic hardship and social strains in the family and community may also predict substance-related behaviors and subsequent psychological problems as well¹⁹.

Behavioral and psychological traits also showed significant correlations with drug use in this study. These conclusions are supported by previous research studies, such as a follow-up study

of high school students that revealed that a five-point increase in symptoms of anxiety doubled the chances of initiating alcohol and cannabis use by 1.28 and 1.29 times, respectively, and depressive symptoms doubled the chances of initiating alcohol, cannabis, and prescription opioid use by 25%-38%²⁰.

Functional implications of drug use were also identified in the current study, including family conflict and impairment at job or school. These findings are consistent with other studies¹⁵. Moreover, narrative research has emphasized that exposure to drug use behaviors is enhanced by poor familial attachment, absence of identity formation and association with antisocial individuals²¹. Our results are in line with a previous Canadian study that found socioeconomic status had an impact on drug use habits. The study discovered that factors that had a substantial impact on alcohol and cannabis usage were age, gender, unemployment, moderate or high household income, and educational achievement. Heavy episodic drinking and cannabis usage were less common among older persons and women with college or university degrees. These results corroborate our conclusion that socioeconomic and demographic factors significantly influence drug use.²²

Altogether, the results of the present study align with the existing literature, which states that substance use depends on the multifaceted interplay between demographic, social, psychological, and environmental factors. Nevertheless, this research is limited for several reasons. Causal conclusions cannot be drawn due to the cross-sectional design of the study. The results may not be as applicable to other contexts or the larger community of drug users in Pakistan because the study was restricted to a single tertiary care institution. Self-reporting, recall, and social desirability biases may be present because self-report measures were used to gather data. Additionally, the results may have been impacted by unmeasured confounding variables such as familial environment, peer pressure, mental comorbidities, and socioeconomic status, as well as decreased female involvement brought on by social shame.

CONCLUSION

In conclusion, demographic, social, psychological, and environmental factors have an impact on substance use. Among the risk factors, male gender, less education, peer and family factors, financial stress, and psychological distress were predominant. These findings underscore the importance of targeted social, educational, and mental health interventions to minimize substance use and its adverse outcomes.

Ethical permission: PNS Shifa, Karachi, Pakistan, ERC approval letter No. ERC/2023/PSY/74.

Conflict of Interest: The author states no conflict of interest.

Financial Disclosure/Grant Approval: No funding agency was involved in this research.

Data Sharing Statement: The corresponding author can provide the data proving the findings of this study on request. Privacy or ethical restrictions bound us from sharing the data publicly.

AUTHOR CONTRIBUTION

Waseem A: Substantial contributions to study design, acquisition of data, Manuscript drafting and reviewing it and critical intellectual Content.

Muhammad S: Substantial contributions to acquisition of data, Manuscript drafting and reviewing it and critical intellectual Content.

Iqbal H: Substantial contributions to analysis and interpretation of data, Critical review.

Zehra R: Substantial contributions to concept, study design, Critical review.

Singh P: Substantial contributions to concept, study design, Critical review.

All authors have given final approval of the version to be published and agree to be accountable for all aspects of the work, ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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