

High-Risk Behaviours Among Youth and Their Association with Socio-Demographic Factors

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Abstract: High-risk behaviours such as cigarette smoking, alcohol consumption, tobacco use, reckless driving, physical fighting, and poor health practices are prevalent among young adults and pose significant public health concerns. Understanding the socio-demographic factors associated with these behaviours is essential for developing targeted prevention strategies among college students. The study aimed to examine the prevalence of high-risk behaviours among college students in Mysuru and to identify their socio-demographic correlates. A cross-sectional survey was conducted among 1,520 college students aged 18–24 years enrolled in undergraduate and postgraduate programmes in Mysuru city. Data were collected using a socio-demographic schedule and the Youth Risk Behaviour Survey. Participants were classified as engaging in high-risk behaviour or not, and a cumulative risk score (0–6) was computed based on six behavioural domains. Descriptive statistics, Pearson's Chi-square test, and Spearman's rank-order correlation were used for data analysis. More than half of the participants (53.3%) reported engaging in at least one high-risk behaviour. While 46.7% reported no risk factors, 29.7% reported one, 17.7% reported two, and 6.3% reported three or more co-occurring risk factors. Significant associations were observed between high-risk behaviour and age group, birth order, education, family type, parental education, parental occupation, maternal age, and family income ($p < 0.05$). Birth order emerged as the strongest correlate, with later-born students demonstrating the highest prevalence and accumulation of risk behaviours. Higher family income and younger maternal age were also associated with greater risk involvement. Spearman's correlation analysis showed that family income ($\rho = 0.201$, $p < 0.01$) and student age ($\rho = 0.141$, $p < 0.01$) were positively associated with cumulative risk, whereas maternal age was negatively associated ($\rho = -0.109$, $p < 0.01$). High-risk behaviours are highly prevalent among college students in Mysuru, with family socioeconomic and structural characteristics exerting a stronger influence than individual demographic factors. Birth order, parental education, family income, and maternal age emerged as key determinants. The findings highlight the need for family-sensitive preventive interventions, routine screening, and targeted counselling programmes within college settings to reduce risk behaviours among youth.

Keywords: Smoking, Drinking, High-Risk, Birth Order, Mysuru.

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I. INTRODUCTION

Youth (ages 18–24 years) are crucial years for identity development, risk-taking, and increased independence from parents. High-risk behaviour covers actions that greatly raise the probability of physical harm, psychological distress, or social dysfunction. The most common forms among Indian college students are cigarette smoking, alcohol consumption, tobacco use, reckless driving, physical fighting, and poor health practices such as sedentary behaviour, irregular sleep, and inadequate nutrition. Recent national data show that about 28.6% of Indian males and 12.8% of females in the age group of 15–24 years use tobacco in some form [1]. Alcohol use disorders affect nearly 22% of Indian youth, with the mean initiation age below 18 years [2]. Road traffic

injuries—mostly due to risky driving—are the leading cause of death among Indians aged 15–29 years, responsible for over 1.5 lakh fatalities each year [3].

The co-occurrence of these behaviours is well documented; youth who engage in one risk behaviour are significantly more likely to engage in others, reflecting shared underlying determinants, including impulsivity, family environment, and socioeconomic status [4], [5]. Understanding the socio-demographic associations with high-risk behaviour among Indian college students is critical for developing targeted, evidence-based prevention programmes.

II. METHODOLOGY

➤ Research Design

The present study used a cross-sectional survey design to examine the prevalence of high-risk behaviour among college students and its socio-demographic correlates. To facilitate systematic measurement and statistical analysis in a large sample, a quantitative approach was adopted. The institutional Ethics Committee approval was taken to conduct the study (IHEC-UOM No. 176/Ph.D./2021/2022, approved on 22/02/2022).

➤ Study Setting and Participants

The study was conducted among college students in Mysuru city. A total of 1,520 students participated. Participants were drawn from undergraduate and postgraduate programmes. Convenience sampling was employed to achieve a sample that reflected variation in gender, age group, area of residence, birth order, and family socioeconomic background, thereby supporting the generalizability of the findings within the defined population. Inclusion criteria required participants to be enrolled in a recognised college and aged 18-24. Students with incomplete responses were excluded from analysis.

➤ Measures

A researcher-constructed socio-demographic schedule was used to collect information on age, gender, birth order, and education. It also included the area of residence, family type, father's age, education, and occupation, and mother's age, education, and occupation, and total family income.

High-risk behaviour was assessed using a standardised tool, the Youth Risk Behaviour Survey [6]. A total of six domains were covered under high-risk behaviours: cigarette smoking, alcohol consumption, tobacco use, reckless driving, physical fighting, and poor physical health practices. Respondents were classified as engaging in high-risk behaviour (Yes) or not (No). For each participant, a cumulative score ranging from 0 to 6 for high risk was also computed.

➤ Data Collection Procedure

Data collection used self-administered questionnaires in classroom settings, after obtaining permission from institutional authorities. Participation was voluntary, all participants gave informed consent before data collection. The purpose and procedure were explained clearly, and confidentiality was assured.

➤ Statistical Analysis

Data were analysed using IBM SPSS Statistics (Version 25.0). Descriptive statistics, including frequencies and percentages, were computed for all socio-demographic variables and high-risk behaviour categories. Pearson's Chi-square test (χ^2) was employed to examine associations between categorical socio-demographic variables and high-risk behaviour status, as well as the distribution of the number of high-risk factors. Spearman's rank-order correlation (ρ) was used to assess relationships between continuous socio-demographic variables — students' age, total family income, father's age, and mother's age — and the number of high-risk factors. Statistical significance was set at $p < 0.05$ for all analyses.

III. RESULTS AND DISCUSSION

As per Table 1, the sample of 1,520 college students was nearly equally distributed across age groups (18–21 years: 49.4%; 22–24 years: 50.6%) and gender (males: 46.1%; females: 53.9%). First-born students constituted the largest birth order group (49.7%), followed by later-born (34.8%) and second-born (15.5%). Undergraduate (50.9%) and postgraduate (49.1%) students were almost equally represented, as were rural (47.9%) and urban (52.1%) participants.

The majority belonged to nuclear families (88.9%). Most fathers had secondary education (36.1%) and were engaged in agriculture (44.5%), while most mothers had secondary education (71.4%) and were homemakers (82.6%). Family income was spread across low (36.6%), middle (31.8%), and higher (31.6%) income groups, reflecting a heterogeneous socioeconomic profile.

Table 1 Socio-Demographic Profile of the Sample

Variable	Category	N	%
Age Group	18–21 Years	751	49.4
	22–24 Years	769	50.6
Gender	Male	701	46.1
	Female	819	53.9
Birth Order	First Born	755	49.7
	Second Born	236	15.5
	Later Born	529	34.8
Education	Undergraduate (UG)	774	50.9
	Postgraduate (PG)	746	49.1
Area of Residence	Rural	728	47.9
	Urban	792	52.1
Family Type	Nuclear Family	1352	88.9
	Non-Nuclear Family	168	11.1
Father's Age	50 Years and Below	794	52.2
	Above 50 Years	726	47.8

Mother's Age	Below 45 Years	790	52.0
	45 Years and Above	730	48.0
Father's Education	Below Secondary	311	20.5
	Secondary (SSLC)	548	36.1
	PUC/Diploma/ITI	251	16.5
	Graduate and Above	410	27.0
Mother's Education	Up to Secondary	1085	71.4
	PUC/Diploma/TCH	219	14.4
	Graduate and Above	216	14.2
Father's Occupation	Agriculture and Allied	676	44.5
	Manual and Skilled Labour	294	19.3
	Business/Self-Employed	209	13.8
	Service Sector	341	22.4
Mother's Occupation	Homemaker	1256	82.6
	Informal/Manual Employment	124	8.2
	Formal/Professional Employment	140	9.2
Total Family Income	Up to Rs. 50,000	556	36.6
	Rs. 50,001 – Rs. 6,00,000	483	31.8
	Above Rs. 6,00,000	481	31.6

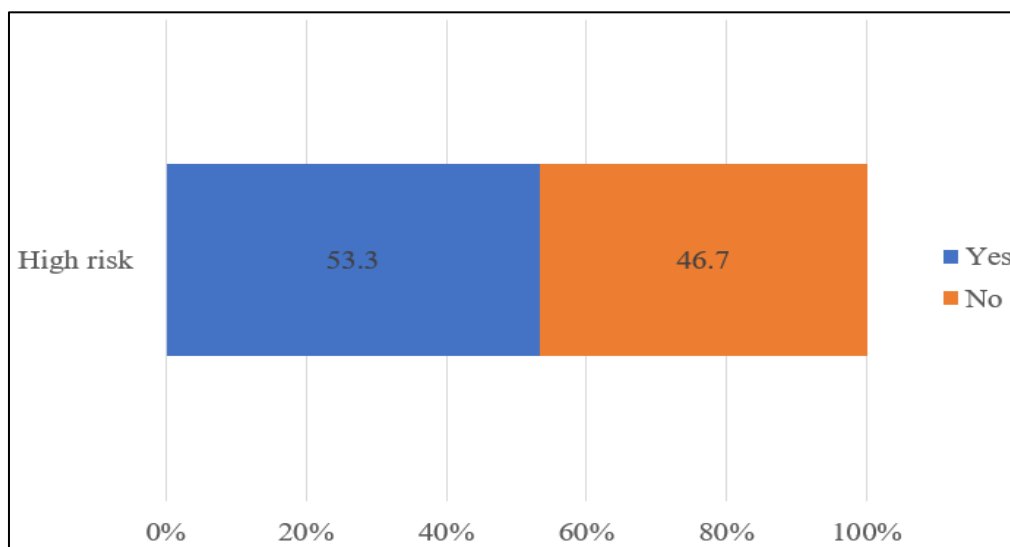


Fig 1 Prevalence of High-Risk Behaviour Among College Students

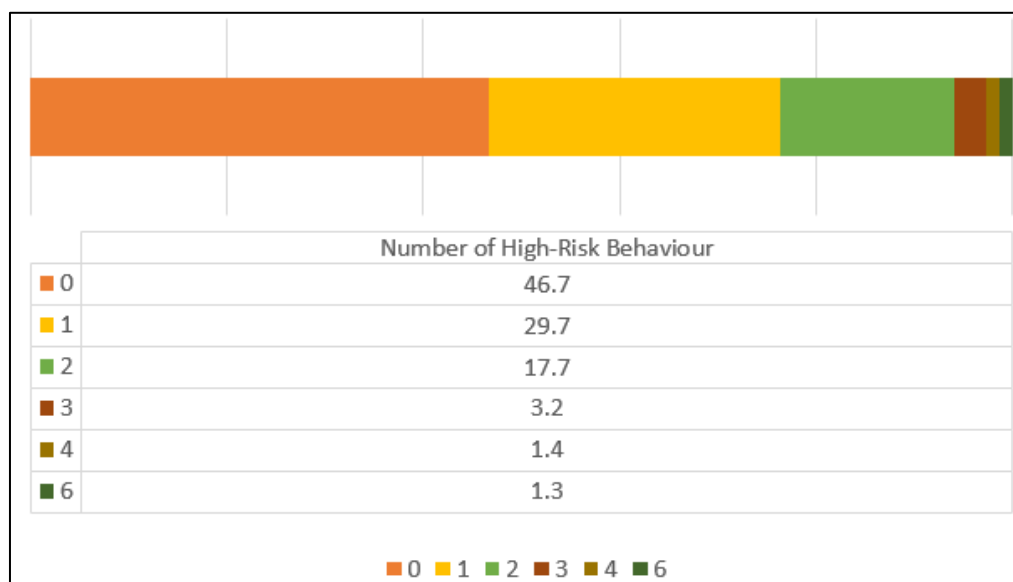


Fig 2 Distribution of Number of High-Risk Behaviours Among College Students

As shown in Fig 1, of the 1,520 college students surveyed, 810 (53.3%) were identified as engaging in high-risk behaviour, indicating that more than half of the sample was at risk. According to Fig. 2 regarding cumulative burden, 46.7% reported zero risk factors, 29.7% reported one, 17.7% reported two, and 6.3% reported three or more high-risk behaviours, reflecting a substantial proportion of students with multiple co-occurring risk behaviours.

As per Table 2, Chi-square analysis revealed that age group, birth order, education, family type, father's education,

father's occupation, mother's age, mother's education, mother's occupation, and total family income were all significantly associated with high-risk behaviour ($p < 0.05$ or $p < 0.01$). Gender and father's age showed no significant association. Birth order showed the strongest association with high-risk behaviour ($\chi^2 = 240.029$, $p < 0.01$), with later-born students reporting the highest prevalence (74.7%), followed by father's education ($\chi^2 = 80.367$, $p < 0.01$) and total family income ($\chi^2 = 53.163$, $p < 0.01$). Students from higher-income families, nuclear families, and those with employed mothers consistently reported elevated risk. Notably.

Table 2 Chi-Square Analysis of Socio-Demographic Variables with High-Risk Behaviour

		No High-Risk Behaviour		High-Risk Behaviour		χ^2	DF	Sig.
		N	%	N	%			
Gender	Male	337	48.1	364	51.9	0.972	1	0.324
	Female	373	45.5	446	54.5			
Age Group	18–21 Years	406	54.1	345	45.9	32.223**	1	0.000
	22–24 Years	304	39.5	465	60.5			
Birth Order	First Born	375	49.7	380	50.3	240.029**	2	0.000
	Second Born	201	85.2	35	14.8			
	Later Born	134	25.3	395	74.7			
Education	UG	387	50.0	387	50.0	6.856**	1	0.009
	PG	323	43.3	423	56.7			
Area of Residence	Rural	321	44.1	407	55.9	3.845*	1	0.050
	Urban	389	49.1	403	50.9			
Family Type	Nuclear Family	612	45.3	740	54.7	10.250**	1	0.001
	Non-Nuclear Family	98	58.3	70	41.7			
Father's Education	Below Secondary	102	32.8	209	67.2	80.367**	3	0.000
	Secondary	332	60.6	216	39.4			
	PUC/Diploma/ITI	88	35.1	163	64.9			
	Graduate and Above	188	45.9	222	54.1			
Father's Occupation	Agriculture and Allied	311	46.0	365	54.0	42.019**	3	0.000
	Manual & Skilled Labour	108	36.7	186	63.3			
	Business & Self-Employed	137	65.6	72	34.4			
	Service Sector	154	45.2	187	54.8			
Mother's Age	Below 45 Years	321	40.6	469	59.4	24.409**	1	0.000
	45 Years and Above	389	53.3	341	46.7			
Mother's Education	Up to Secondary	538	49.6	547	50.4	17.552**	2	0.000
	PUC/Diploma/TCH	75	34.2	144	65.8			
	Graduate and Above	97	44.9	119	55.1			
Mother's Occupation	Homemaker	605	48.2	651	51.8	6.206*	2	0.045
	Informal/Manual Employment	50	40.3	74	59.7			
	Formal/Professional Employ.	55	39.3	85	60.7			
Total Family Income	Up to Rs. 50,000	328	59.0	228	41.0	53.163**	2	0.000
	Rs. 50,001 – Rs. 6,00,000	190	39.3	293	60.7			
	Above Rs. 6,00,000	192	39.9	289	60.1			

Note. $N = 1,520$. $\chi^2 =$ Pearson Chi-Square. $df =$ degrees of freedom. Sig. = Asymptotic significance (2-sided). * $p < .05$. ** $p < .01$.

Students with older mothers (45 years and above) reported a significantly lower risk (46.7%) than those with younger mothers (59.4%), suggesting a protective effect of maternal age.

In College and university samples, males generally report more high-risk behaviours than females, including smoking, alcohol and substance use, risky driving, fighting,

and multiple risk behaviours overall [7], [8], [9]. Risk behaviours generally increase across adolescence, with multiple risk behaviours peaking around late Youth [10], [11], [12]. In India, high-risk behaviour rose from mid-teens to early 20s, with particularly sharp increases among youth boys over time [13].

Table 3 presents associations between socio-demographic variables and the number of high-risk factors. The majority of students reported zero (46.7%) risk behaviours, followed by one (29.7%), while 17.7% reported two and 6.3% reported three or more, indicating clustering of multiple risk behaviours in a significant minority. Nine of thirteen socio-demographic variables showed statistically significant associations. Gender, education, area of residence, and father's age were not significant.

Birth order had the strongest association ($\chi^2 = 253.033$, $p < 0.01$). Second-born students had the lowest risk accumulation (85.2% at zero factors), while later-born students showed the highest burden, with only 25.3% reporting zero risk factors. Father's education was the second strongest predictor ($\chi^2 = 91.647$, $p < 0.01$), with students of fathers with below-secondary education and PUC/Diploma/ITI education accumulating the most risk factors compared to those with secondary-educated fathers (60.6% at zero). Total family income showed a consistent gradient ($\chi^2 = 60.245$, $p < 0.01$), with lower-income students reporting fewer risk factors (59.0% at zero) and middle- to higher-income students showing greater accumulation. Father's occupation ($\chi^2 = 56.091$, $p < 0.01$), age group ($\chi^2 = 40.311$, $p < 0.01$), mother's age ($\chi^2 = 30.319$, $p < 0.01$), and mother's education ($\chi^2 = 28.123$, $p < 0.01$) were all significant, with older maternal age consistently showing a protective pattern. Mother's occupation ($\chi^2 = 19.684$, $p < 0.05$) and

family type ($\chi^2 = 13.807$, $p < 0.05$) were also significant at a moderate level.

According to Table 4, Spearman's correlation analysis confirmed that total family income ($\rho = 0.201$, $p < 0.01$) and student's age ($\rho = 0.141$, $p < 0.01$) were the strongest positive correlates of cumulative risk, while mother's age showed a modest but significant protective association ($\rho = -0.109$, $p < .01$). Father's age was not significantly correlated with risk behaviour ($\rho = 0.012$, $p = 0.629$).

Later-born youth are more likely than firstborns to smoke, drink, use marijuana, be sexually active, and engage in crime [14], [15], [16]. Birth order can also interact with adversity, with younger siblings showing more externalising behaviour when exposed to many family-wide adverse experiences [17]. Additionally, parental factors such as maternal age play a role, as increasing maternal age across multiple cohorts is linked to a lower risk of educational underachievement, crime, substance misuse, mental health problems, and behavioural issues in offspring into adolescence [18], [19], [20].

Overall, the findings suggest that high-risk behaviour among college students is more strongly shaped by family socioeconomic and structural factors than by individual demographic characteristics, underscoring the importance of family-level interventions in prevention efforts.

Table 3 Association between Socio-Demographic Variables and Number of High-Risk Factors (N = 1,520)

		0		1		2		3		4		6		χ^2 df Sig.
		N	%	N	%	N	%	N	%	N	%	N	%	
Gender	Male	337	48.1	188	26.8	126	18.0	28	4.0	10	1.4	12	1.7	8.762 5 0.119
	Female	373	45.5	263	32.1	143	17.5	21	2.6	12	1.5	7	0.9	
Age Group	18–21 Years	406	54.1	200	26.6	108	14.4	14	1.9	12	1.6	11	1.5	40.311** 5 0.000
	22–24 Years	304	39.5	251	32.6	161	20.9	35	4.6	10	1.3	8	1.0	
Birth Order	First Born	375	49.7	217	28.7	117	15.5	32	4.2	7	0.9	7	0.9	253.033** 10 0.000
	Second Born	201	85.2	13	5.5	16	6.8	2	0.8	2	0.8	2	0.8	
	Later Born	134	25.3	221	41.8	136	25.7	15	2.8	13	2.5	10	1.9	
Education	UG	387	50.0	212	27.4	131	16.9	26	3.4	9	1.2	9	1.2	8.018 5 0.155
	PG	323	43.3	239	32.0	138	18.5	23	3.1	13	1.7	10	1.3	
Area of Residence	Rural	321	44.1	228	31.3	138	19.0	23	3.2	8	1.1	10	1.4	5.939 5 0.312
	Urban	389	49.1	223	28.2	131	16.5	26	3.3	14	1.8	9	1.1	
Father's Age	50 Years and Below	372	46.9	241	30.4	139	17.5	22	2.8	10	1.3	10	1.3	1.766 5 0.880
	Above 50 Years	338	46.6	210	28.9	130	17.9	27	3.7	12	1.7	9	1.2	
Father's Education	Below Secondary	102	32.8	120	38.6	61	19.6	15	4.8	5	1.6	8	2.6	91.647** 15 0.000
	Secondary	332	60.6	128	23.4	71	13.0	11	2.0	5	0.9	1	0.2	
	PUC/Diploma/ITI	88	35.1	85	33.9	61	24.3	8	3.2	4	1.6	5	2.0	
	Graduate and above	188	45.9	118	28.8	76	18.5	15	3.7	8	2.0	5	1.2	
Father's Occupation	Agriculture and Allied	311	46.0	221	32.7	109	16.1	23	3.4	8	1.2	4	0.6	56.091** 15 0.000
	Manual & Skilled Labour	108	36.7	95	32.3	70	23.8	9	3.1	5	1.7	7	2.4	

	Business & Self Employed	137	65.6	38	18.2	26	12.4	4	1.9	1	0.5	3	1.4	
	Service Sector	154	45.2	97	28.4	64	18.8	13	3.8	8	2.3	5	1.5	
Mother's Age	Below 45 Years	321	40.6	265	33.5	160	20.3	22	2.8	14	1.8	8	1.0	30.319** 5 0.000
	45 Years and Above	389	53.3	186	25.5	109	14.9	27	3.7	8	1.1	11	1.5	
Mother's Education	Up to Secondary	538	49.6	314	28.9	171	15.8	31	2.9	17	1.6	14	1.3	28.123** 10 0.002
	PUC/Diploma/TCH	75	34.2	70	32.0	58	26.5	9	4.1	5	2.3	2	0.9	
	Graduate and Above	97	44.9	67	31.0	40	18.5	9	4.2	0	0.0	3	1.4	
Mother's Occupation	Homemaker	605	48.2	362	28.8	216	17.2	41	3.3	16	1.3	16	1.3	19.684* 10 0.032
	Informal/Manual Employment	50	40.3	47	37.9	16	12.9	5	4.0	3	2.4	3	2.4	
	Formal/Professional Employ.	55	39.3	42	30.0	37	26.4	3	2.1	3	2.1	0	0.0	
Family Type	Nuclear Family	612	45.3	415	30.7	239	17.7	47	3.5	21	1.6	18	1.3	13.807* 5 0.017
	Non-Nuclear Family	98	58.3	36	21.4	30	17.9	2	1.2	1	0.6	1	0.6	
Total Family Income	Up to Rs. 50,000	328	59.0	135	24.3	68	12.2	13	2.3	9	1.6	3	0.5	60.245** 10 0.000
	Rs. 50,001 – Rs. 6,00,000	190	39.3	156	32.3	103	21.3	16	3.3	8	1.7	10	2.1	
	Above Rs. 6,00,000	192	39.9	160	33.3	98	20.4	20	4.2	5	1.0	6	1.2	

Note. N = 1,520. χ^2 = Pearson Chi-Square. df = degrees of freedom. Sig. = Asymptotic significance (2-sided). * p < .05. ** p < .01.

Table 4 Spearman's Rho Correlation Matrix — Socio-Demographic Variables and Number of High-Risk Factors

	Number of High-Risk Factors
Actual Age	0.141** <i>p</i> = 0.000
Total Family Income	0.201** <i>p</i> = 0.000
Father's Age	0.012 <i>p</i> = .629
Mother's Age	-0.109** <i>p</i> = 0.000

Note. Values above the diagonal are Spearman's rho (ρ). *p*-values are two-tailed. ** *p* < .01.

IV. CONCLUSION

The present study reveals that high-risk behaviour is highly prevalent among college students in Mysuru, with more than half of the sample engaging in at least one risk behaviour. Family socioeconomic and structural variables emerged as stronger determinants than individual demographic characteristics, with birth order, father's education, total family income, and mother's age identified as the most influential predictors. Later-born students, those from lower paternal education backgrounds, and students from middle- to higher-income families demonstrated disproportionately elevated risk profiles. Conversely, older maternal age and non-nuclear family structure appeared to exert a modest protective influence, highlighting the role of parental supervision and family cohesion in buffering risk engagement.

These findings underscore the need for individual, family-sensitive, targeted preventive interventions within college settings. Integrating high-risk behaviour screening into routine counselling services, alongside family-awareness programmes, could significantly reduce risk burden among

Indian college youth. Future research should adopt longitudinal designs and examine the interplay between high-risk behaviour, mental health, and family environment to establish a more robust causal understanding.

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