

A STUDY TO IDENTIFY FACTORS LEADING TO HIGH RISK BEHAVIOUR TENDENCY AMONGST ADOLESCENTS

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Abstract: Risk-taking behaviour can adversely affect the health of teens and adversely effect the society at large. It is important to identify the factors that have a bearing on risk-taking tendency to take proactive measures so that consequential damage can be prevented. The environment and its perception by adolescents as they grow up and spend most of their time in is crucial in shaping their personalities. The current research was conducted on adolescents to study their tendency toward high-risk behaviours. The sample of this study contained 350 school-going adolescents of both sexes in equal numbers from private and government-run schools in the Delhi NCR, India. The study revealed that out of a total of 14 factors that were considered to assess risk-taking potential among adolescents, nine were found to be associated with high-risk behaviour tendencies among these 350 school-going adolescents. These factors are Thrill seeking inclination, Apathetic attitude, Social alienation, Need for instant gratification, Non-conforming mindset, Anxiety, Under-performance, Conflicting parental expectations, and Impulsivity. Interestingly, the results show that adolescents belonging to a joint family were found to have a higher tendency toward risk-taking behaviour. Similarly, respondents who attend private schools are prone to riskier behaviour. However, gender was found to have no significant difference in high-risk behaviour tendencies among adolescents. In light of these results, this study emphasises the need to develop more relevant and focused interventions aimed at understanding and addressing issues related to high-risk behaviours among adolescents. Since school is a place where adolescents spend most of the day studying, doing activities, and trying out new activities with their peers, a conducive school environment and supportive counselling set-up keeping in mind their specific needs can improve the mental well-being of these adolescents, thereby reducing their tendency toward high-risk behaviours.

Keywords: *Adolescents, adolescent behaviour, counselling interventions, high risk behaviour tendency, mental well-being*

Introduction

Adolescence is a critical period for developing social and emotional perspectives that are essential for lifelong mental well-being. It is a phase of life between childhood and adulthood, ranging from 10 to 19 years of age. It is crucial to lay the foundation for optimum physical and mental well-being. Healthy sleep patterns, regular exercise, strong interpersonal skills, and emotional literacy are important during this period. Cordial and supportive environments play a crucial role in families, schools, and society. The more stressful adolescents are exposed to, the higher the impact on their mental well-being. Anxiety, depression, and stress among adolescents have increased at alarming rates over time. Globally, it is estimated that 1 in 7 (14%) 10 to 19 year olds experience mental health conditions (3). A well-balanced mental health in adolescents is very important for society to grow socially, politically, and economically. This can be ensured when adolescents are safe, healthy, informed, and well equipped with life skills to support themselves from any kind of adversity. Many factors impact the well-being and mental health of adolescents. They are particularly vulnerable to social exclusion, sexual abuse, discrimination, stigma, educational difficulties, physical ill-health, sexual abuse, pressure to conform peers, and emotional abuse. These factors lead to mental conditions such as anxiety, depression, and stress in adolescents. Mental health conditions account for 16% of the global burden of disease and injury in people aged 10–19 years (3). Half of all mental health disorders in adulthood start by the age of 14, but most cases are undetected and untreated. To deal with anxiety, depression, and stress, they often turn toward high-risk behaviours as unhelpful coping strategies that can severely impact an adolescent's mental and physical well-being. High-risk behaviours increase the risk of disease or injury, which can subsequently lead to disability, death, or social problems (17). These high risk behaviours can be in the form of drinking alcohol, practicing unsafe sex, dangerous driving, tobacco and drug consumption or violence. Poor diet and low physical activity are additional challenges which begin during childhood and adolescence. Adolescence can be defined as a disorder that causes the motivation of adolescents to be misdirected due to impaired self-control (Reynolds et al., 2013). The causes of high-risk behaviours include inadequate information and skills, poor access to education and health services, unsupportive social environments, and exploitation (9). They also have a poor quality of family life and poor peer relationships. High risk behaviour tendency in adolescents can be defined as potential in adolescents for early initiation of sexual activity leading to heightened risk of contracting sexually transmitted diseases, hazardous use of drugs, alcohol and tobacco, suicidal tendencies, orientation towards violent behaviour (Violent behaviour according to WHO is, “the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, which either results in or has a high likelihood of resulting in injury, death, psychological harm, mal-development, or deprivation.” (3).

A survey of the related literature reveals that, as per the report of the United Nations Expert Group Meeting on Adolescents, Youth, and Development (2011), 2.6 million deaths were reported worldwide in 2004 alone among adolescents and youth between 10-24 years of age. Low -to middle-income countries accounted for 97 per cent of these deaths. Of these, 11% deaths were due to HIV/AIDS and tuberculosis, 14% male & 5% female deaths were due to road traffic accidents, 12% of male deaths were due to violence, and 6% due to suicide. Currently, there are more adolescents in the world than ever before: 1.2 billion, totalling one-sixth of the global population. This number is expected to go up by 2050, particularly in low- and middle income countries, where close to 90% of 10 to 19 year-olds live. More than half of all adolescents live in Asia (2). India has the largest adolescent population in the world, at 253 million, and every fifth person is between 10 and 19 years old. In India, according to 2011 census, the adolescent population comprises 19.2% of the total population.

Preventing the development of these kinds of behaviours is easier than reversing them later in adulthood. Problems related to conduct are considered precursors to high-risk behaviours in adolescence across various social and economic settings (14). The right kind of counselling intervention at the school level for adolescents can prove to be the most effective way of protecting them from indulging in high-risk behaviour and promoting physical and mental well-being, since at this age, they are more likely to be receptive and agreeable to changes and modifications of their habits (10). It is based on the assumption that when young people are able to rise above emotional impasses arising from daily conflicts, entangled relationships, and peer pressure, they are less likely to resort to anti-social or high-risk behaviour.” (8)

A number of policies and interventions with regard to empowering adolescents have been put forth by the Government of India, Ministry of HRD, Ministry of Youth Affairs and Sports, coordinating agencies such as NCERT, NACO, KVS, CBSE, etc., and by UN agencies such as UNICEF, UNFPA, etc. However, despite all the awareness, efforts, and interventions, there has been a high increase in the rate of HIV infection, sexual abuse/rapes, teenage pregnancies, suicides, drug abuse, and aggression in adolescents in India.

In the face of this reality, it is imperative to identify the gaps that exist in our interventions and efforts while dealing with adolescents and re-examining them. Early crime and violence prevention programs could target these behavioural difficulties and the associated risks in all social settings (14). We need to find out that despite consolidated efforts and aligning policies, a gap is seen between the desired and current state of adolescents in Indian society. This gap gives rise to the need for the present study. This study aimed to study the prevention of high-risk behaviours among adolescents by identifying the factors that influence high-risk behaviour tendencies in adolescents.

Need of the study

Over the last decade, recognition of the pervasive nature and impact of high-risk behaviours among adolescents has grown. Despite consolidated efforts and aligning policies, there is a gap between the desired and current state of adolescents in Indian society. It is observed that a number of adolescents today are retorting high-risk behaviours. However, there is a dearth of literature on understanding the underlying facts influencing this behaviour. This phenomenon remains largely undocumented and under-reported. This gap gives rise to the need for the present study. Through this study, the researcher aimed to highlight the underlying factors influencing high-risk behaviour tendencies among adolescents. This will lead to the articulation of focused interventions and educational implications to prevent high-risk behaviours among adolescents.

Objectives of the study

1. To study the tendency of high-risk behaviours among adolescents across gender, family, and school type.
2. To identify and compare various factors that correlate with the tendency toward high-risk behaviour among adolescents.
3. To study the predictability of these factors on the behaviour of adolescents with specific reference to risk taking.

Research methodology

In the present study, a descriptive research approach was used to explore the existing knowledge. In the absence of sufficient research on adolescents' tendency toward high-risk behaviour, the researchers conducted a **Preliminary Survey**. Based on insights received from experts in the field, an online survey was conducted by researchers on educators, counsellors, mental health professionals, adolescents, and parents of adolescents to identify the factors that lead to higher-risk behaviour in Indian adolescents. The survey revealed that in their view, there are many factors responsible for High-Risk Behaviour tendency in adolescents.

To study the tendency of adolescents towards High-Risk Behaviour a survey was conducted using a scale that measures various factors for tendency towards high-risk behaviour in adolescents. The scale was conceptualised based on inputs from focus group discussions, expert comments, and an extant literature review. A sample served as a representative of the population being studied and helped draw generalisations about the population. The sample under investigation was a purposive sample. In purposive sampling, the researcher judges the sample to select. Defining purposive sampling, Fraenkel and Wallen (1993) say that it is choosing a sample which is representative of certain known characteristics of the population. The present study is concerned with adolescents of the Delhi NCR, who have witnessed rapid technological advancement and economic, cultural, and sociological changes. A total of 350 respondents were selected from schools in various regions of Delhi NCR. The study population consisted of school-going adolescents age group who 14-15years studying in grade-9. The investigators considered two stratifications in terms of gender, school type, and family type. The participants included were from both private and government schools.

Convenience sampling was performed once the participants met the selection criteria. The principals of the schools were approached personally, and all efforts were made to secure full cooperation from teachers. It was not possible to meet the respondents personally because of the pandemic. Therefore, Google Forms were used to collect data. However, the purpose of the study was explained to the respondents through class WhatsApp groups beforehand, and they were assured that their responses would be kept confidential. No time limit was imposed on them, so that they could answer at their own speed.

Measurement

It has been established that various high-risk behaviours bear a strong inter-relationship with one another, where indulgence in one behaviour leads to the occurrence of another (13). However, an extensive literature review on adolescents' high-risk behaviour suggests that there is a dearth of research evidence in this area, particularly in the Indian context. No scientific scale has been developed to measure the tendency of adolescents to engage in high-risk behaviours. Based on an extensive literature review, focus group discussion, and content analysis, the researchers developed a tool to measure high-risk behaviours.

Tool Development:

I. Focus Group Discussions:

To develop a tool that can measure high-risk behaviour tendencies in adolescents, there is a need to identify psychological factors which make adolescents more prone to risk-taking. Focus group discussions were held with various stakeholders to identify these factors. The stakeholders were adolescents, parents of adolescents, school principals and teachers, adolescent counsellors, and experts in the field of adolescent behaviour. Based on these, the following factors were shortlisted.

- In appropriate coping styles
- Lack of trust between parents and children
- High perceived academic load
- Low emphasis on life skills and problem solving
- Age related desire to experiment
- Seeing oneself as a misfit
- Emotional insecurity
- Low self-regulation
- Social isolation
- Non-confirming behaviour
- High IQ
- Stress
- Thrill seeking inclination
- Low self-esteem
- Need for instant gratification
- Poor relationship status
- Easy availability of means

II. Literature review:

A review of the related literature was also carried out to identify the factors known to make adolescents more vulnerable to risk-taking. Based on a related literature review, it was found that risk-taking in adolescents is not guided by any one factor. Rather, it is a complex phenomenon that arises due to many factors such as neurobiology of the adolescent brain, genetic make-up of an individual to develop this kind of behaviour, epigenetics, that is, the influence of environmental factors on the expression of inherent genetic factors, and the resilience of an individual develops due to protective family and society (5). Apart from these, there are certain significant personality factors that contribute to high-risk behaviours in adolescents. Some of these factors have been found to be

According to Prof. Alan R. Lang, a psychology professor at Florida State University (18):

- Impulsive behaviour
- problem in delaying gratification
- antisocial personality
- disposition for sensation seeking
- high value on nonconformity
- weak commitment to the goals,
- sense of social alienation,
- tolerance for deviance,
- sense of heightened stress

According to Dr. Robert B. Millman, director of Drug and Alcohol Abuse Treatment, Cornell Medical College (1):

- Anti-authoritarians
- Loners
- Have external locus of control
- Low achievers having high potential, are characteristics that influence risk taking in adolescents.

According to a reference handbook by the American Psychological Association for professionals, protective forces against risky behaviours in adolescents are (4):

- Stable and positive relationship with at least one caring adult
- Presence of religious anchors
- Realistic academic expectations
- High emotional quotient to cope with stress
- Positive family environment, protect adolescents from getting into risky behaviours.

Additionally,

- Supportive social relationships (16)
- Greater self-control (11)
- Poor bonding with parents (6)
- Sensation seeking (7)
- Adolescent depression (12) is also considered to influence risk-taking behaviour in adolescents.

Tool Description:

Finally, based on the above criteria, a tool was constructed in both English and Hindi through consultation with 10 experts. Fourteen factors were considered for tool construction. The tool consisted of 28 items. Various revisions have been made based on their suggestions. After a pilot study using the test-retest method with 30 adolescents, the required changes were made to the tool before the final administration. After establishing validity and reliability, the final version of the tool had the following factors to assess high-risk behavioural tendencies in adolescents:

1. **Low self-esteem:** Low self-esteem is defined as a sense of reduced self-worth in an individual.
2. **Low stress threshold:** A low-stress threshold is defined as a reduced ability to adapt to adverse conditions.
3. **Low emotional quotient:** low emotional quotient is defined as a reduced capacity to understand one's own and others' feelings.
4. **Commitment Inconstancy:** An individual's inability to retain intention and focus on a promised action.
5. **High sensitivity:** High sensitivity is defined as an individual's hyperactive tendency to respond to a stimulus.
6. **Thrill seeking inclination:** Thrill-seeking inclination is defined as an individual's behavioural tendency to seek new and risky sensations and experiences.
7. **Apathetic attitude:** An attitude of an individual whose behaviour is marked by indifference and lack of emotions.
8. **Social alienation:** A tendency in an individual to remain disconnected or be loner and alienate himself from others in the group or society.
9. **Need for instant gratification:** Need for instant gratification is defined as the need for an individual to neglect long-term goals in order to enjoy the benefits of short-term goals.
10. **Non-conforming mindset:** Non-conforming mindset is an individual's behavioural tendency to act contrary to the norms and customs of society.
11. **Anxiety:** Anxiety can be defined as an individual's tendency to worry excessively, intensely, or fearfully about normal everyday situations.
12. **Under-performance:** Individuals who perform less than what they are capable of due to not trying enough are called under-performers.

13. **Conflicting parental expectations:** When children want to do things differently from the mental sets of performance their parents hold, they are said to face conflicting parental expectations.
14. **Impulsivity:** Impulsivity is defined as a behaviour that occurs suddenly without careful consideration of consequences.

Tool Administration:

Due to the closure of schools due to the COVID-19 pandemic, the tool was administered to 350 school-going adolescents through online Google forms, as per the details given in the research methodology section.

Reliability and validity study of the High Risk Behaviour instrument

Rasch measurement was used to analyse the validity and reliability of the high-risk behaviour tool. To check the psychometric properties of the tool, data were collected from a total number of 380 ninth-grade students from both groups. and private schools in Delhi, India. Item dimensionality, item polarity, and item fit were analysed using Bond & Fox Steps, a version of WINSTEPS. The data for the High Risk Behaviour instrument are in the form of a binary variable, where there are two possible scores of responses in all the items measuring the constructs. They are “1” for yes and “0” for No. There are three fit indices criteria (Table-1) for establishing reliability from the Rasch Model: Cronbach’s alpha, item and person reliability, and item and person separation.

The Rasch model selected for reporting on the fit statistics for each subscale were the Infit and Outfit MNSQ values, the point measure correlation (PT MSE CORR), Rasch reliability for person and item, and variance experienced by measure (Table 2). Outfit MNSQ informs about the suitability of the item in measuring validity, while PTMEA-CORR is the extent to which the development of the constructs has achieved its goals (Bond and Fox, 2007). A positive PTMEA-CORR value indicated that the item measured the construct to be measured. The ZSTD is a t-test of the hypothesis which can inform the researcher whether the data perfectly fit the model.

Findings

Reliability, Item and Person Separation

Table-1 shows the values for person reliability, item reliability, person separation, item separation, and Cronbach’s alpha (KR-20) value of the High Risk Behaviour (HRB) instrument based on Rasch analysis in WINSTEPS.

Table-1

The Value for Person Reliability, Item Reliability, Person Separation, Item Separation and Cronbach’s Alpha (KR-20) Value of the HRB Instrument	
Statistics	Value
Cronbach’s alpha (KR-20)	0.68
Person Reliability	0.67
Item Reliability	0.97
Person Separation	1.43
Item Separation	5.48

From Table-1 it can be seen that the value for person reliability is 0.67 with the person separation value of 1.43. According to Linacre (2006) and Bond & Fox (2015), value for accepting reliability in RM should be more than 0.50. For the person separation, the value of 1.43 is interpreted as acceptable, and this is supported by Krishnan and Idris (2014) stated that

the person separation must be more than 1.00 suggesting that the respondents are measured across the spread. In this study, the value for item reliability is 0.97 with an item separation value of 5.48. Low-item separation i.e. less than 3 implies that the person sample is not large enough to confirm the item difficulty hierarchy (Linacre, 2011). As for the item separation value, the value of 5.48 is interpreted as good and fulfils the condition mentioned by Linacre (2003). Sumintono and Widhiarso (2015) stated that an item reliability which is higher than 0.94 is interpreted as ‘excellent’. Bond and Fox (2007) stated that an item reliability value which is higher than 0.80 has a good value and is strongly acceptable. Meanwhile, Krishnan and Idris (2014) stated that an item separation value which is higher than 1.00 concludes that the items have enough spread. Moreover, the Cronbach’s alpha (KR-20) value which is 0.68 indicates that the HRB instrument has a good reliability of internal consistency (Sumintono & Widhiarso, 2015). Thus, this indicates that the HRB instrument is suitable for the actual research.

Item Polarity

Item polarity was analysed to measure construct validity. The criterion of good correlation is that the values of PTMEA should be greater than 0.20 (Bond & Fox, 2015). Table 2 shows there is no value of negative correlation and the PTMEA of most of the items is greater than 0.20. Table 2 shows the item polarity analysis.

Table-2

Item Fit

Item	MEASURE	Infit MNSQ	Infit ZSTD	Outfit MNSQ (0.50-1.50)	Outfit ZSTD (-2.0-2.0)	PTMEA-CORR (0.40-0.85)
3LST1	2.05	.94	-.3	0.57	-1.7	0.28
7PMC1	0.97	0.97	-0.2	0.92	-0.5	0.28
13ABH1	0.67	0.84	-1.9	0.68	-2.6	0.46
25CPE1	0.61	1.03	0.4	0.92	-0.6	0.26
26CPE2	0.61	0.93	-0.9	0.8	-1.6	0.37
11TSB1	0.57	0.9	-1.3	0.77	-1.9	0.41
4LST2	0.43	1.13	1.8	1.41	3.2	0.10
21ANH1	0.38	1.03	0.4	0.94	-0.5	0.28
28IMH2	0.34	0.97	-0.4	0.92	-0.7	0.33
24LHP2	0.33	0.99	-0.29	0.9	-1.0	0.33
10HSH2	0.26	0.96	-0.7	0.85	-1.5	0.36
2LSE2	0.23	1.01	0.21	0.06	0.6	0.28
27IMH1	0.23	1	.01	0.07	0.7	0.29
14ABH2	0.18	0.97	-0.5	0.89	-1.1	0.35
15SAH1	0.09	0.87	-2.4	0.77	-2.7	0.47
19NCA1	0.01	0.9	-1.9	0.83	-2.1	0.43
1LSE1	-0.1	1.15	2.8	1.26	2.9	0.15
5LEQ1	-0.21	1.19	3.9	1.26	3.3	0.11
9HSH1	-0.23	1.04	0.8	1.09	1.2	0.28
18NIG2	-0.35	0.9	-2.3	0.85	-2.3	0.45
20NCA2	-0.45	0.96	-1.1	0.96	-0.6	0.38

23LHP1	-0.63	1.08	2.1	1.06	1.1	0.27
22ANH2	-0.76	0.92	-2.3	0.87	-2.5	0.45
8PMC2	-0.8	1.14	3.8	1.21	3.8	0.2
6LEQ2	-0.9	1.01	0.4	0.99	-0.1	0.35
17NIG1	-0.91	1.05	1.5	1.06	1.2	0.3
16SAH2	-1.16	0.93	-2	0.91	-1.9	0.44
12TSB2	-1.45	1.18	4.4	1.24	4.3	0.17

Table-2 shows the summary of item fit analysis based on the values of Infit MNSQ, Infit ZSTD, Outfit MNSQ, Outfit ZSTD, and PTMEASURE CORR. The mean square (MNSQ) was used to identify the misfit of the items measuring HRB. Table-2 shows that the infit MNSQ values for all items were within the standard range of 0.6 to 1.4, as suggested by Bond and Fox (2015), and the ZSTD value fulfilled the range between -2 and 2, except for a few items. This means that the HRB items fit the construct. The bold figures indicate that the items partly fulfilled the criteria suggested by Boone et al. (2014). Items which fulfilled at least one of these criteria were retained. An item is considered misfit if both infit MNSQ and outfit MNSQ are > 1.5. (Sumintono and Widhiarso, 2015; Bond & Fox, 2015). Abdul Aziz et al. (2014) stated that an item is misfit if all three criteria are out of the fit range. Therefore, no items were changed or removed from the instrument.

Result and Discussion

The collected data were subjected to various descriptive and inferential statistical techniques using SPSS 23. The results of this analysis are discussed below.

The frequency distribution in Table-3 shows the tendency toward high-risk behaviour across gender, family type, and school type. It can be seen that tendency towards high-risk behaviour is more or less prevalent among the respondents as higher numbers fall in medium category. However, Figure-1 shows that respondents who belong to a joint family and study in private schools have a greater tendency toward high-risk behaviour.

Table-3

		High risk behaviour					
		Low		Med		High	
		Count	Table N %	Count	Table N %	Count	Table N %
Gender	Male	54	15.4%	73	20.9%	48	13.7%
	Female	66	18.9%	61	17.4%	48	13.7%
Family	Joint	71	20.3%	76	21.7%	67	19.1%
	Nuclear	49	14.0%	58	16.6%	29	8.3%
School Type	Govt	66	18.9%	56	16.0%	36	10.3%
	Private	54	15.4%	78	22.3%	60	17.1%

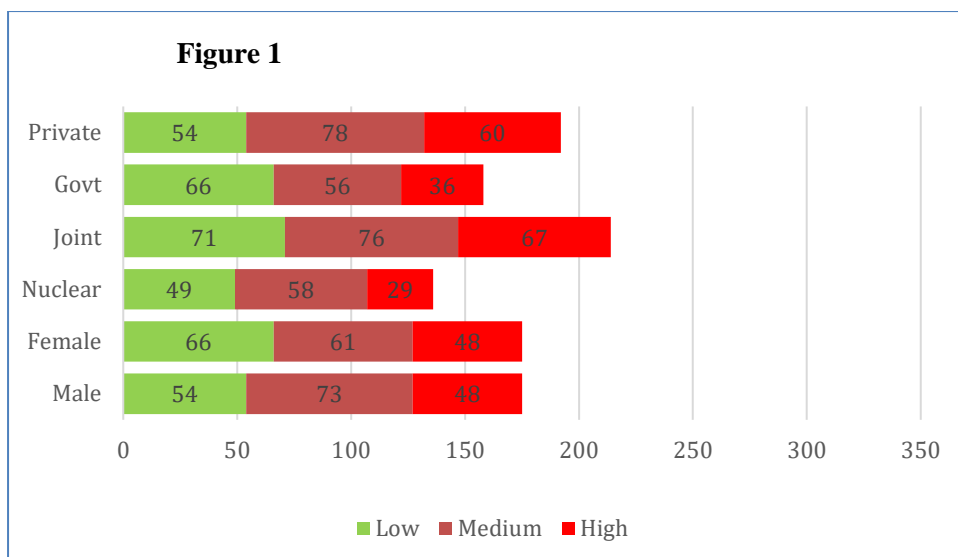


Table-3 shows that there are some differences in the high-risk behaviour tendency among the respondents in terms of their family background and school type. Therefore, a detailed analysis is done to seek the link with different variables of high risk behaviour tendency with different background of the respondents.

Table 2 shows the scores for various factors for the tendency toward high-risk behaviour. A higher score indicated indulgence in the corresponding behaviour. The abbreviations used for the various factors are as follows.

LSE: Low self-esteem, LST-Low stress threshold, LEQ: Low emotional quotient, PMC: Commitment Inconstancy, HSH: High sensitivity, TSB-Thrill seeking inclination, ABH: Apathetic attitude, SAH: Social alienation, NIG: Need for instant gratification, NCA: Non-conforming mindset, ANH: Anxiety, LHP: Under Performance, CPE: Conflicting parental expectations, IMH: Impulsivity.

In Table-4, it can be seen that the Chi square test was performed to see the association between the variables of high-risk behaviour tendency and school type and family type of the respondents. The analysis suggests that with respect to school type and family type, six factors have a significant association with high-risk behaviour tendencies. These include Low self-esteem, Thrill seeking inclination, Apathetic attitude, Non-conforming mindset, Anxiety, Under-performance. Respondents who went to private schools and were from joint families reported very low self-esteem. The statistical significance was $\chi^2(2) = 15.06, p < .0005$. In case of Thrill seeking inclination (statistical significance is $\chi^2(2) = 13.82$ and $6.31, p < .0005$), irrespective of family type, high thrill-seeking behaviour is seen in respondents who go to private schools. Among the 350 respondents, only one respondent from a joint family studied in Govt. School was found to be highly Apathetic (Statistical significance is $\chi^2(2) = 14.25, p < .0005$). Otherwise, respondents were generally less likely to be Apathetic attitude. Non-conforming mindset behaviour is less likely to be prevalent among the respondents, as analysis suggests that very few cases fall in the higher category of Non-conforming mindset factor (statistical significance is $\chi^2(2) = 9.96, 18.56, p < .0005$). High anxiety was observed among the respondents of Govt. schools, who also belonged to the joint family (Statistical significance is $\chi^2(2) = 9.34, p < .0005$). Generally, few cases fell at a higher level in terms of the factor Under-performance (Statistical significance is $\chi^2(2) = 8.72, 10.91, p < .0005$). A slight difference was found among the respondents from nuclear families studying in private schools.

Table-4

Factors	Level	Family			
		Nuclear		Joint	
		Govt	Private	Govt	Private
LSE	Low	41	78	31	43
	Medium	30	46	35	14
	High	10	9	11	2
	Chi square Sig.	0.296		0.001*	
TSB	Low	42	37	29	16
	Medium	32	69	43	31
	High	7	27	5	12
	Chi square Sig.	0.001*		0.043*	
ABH	Low	58	80	61	30
	Medium	16	39	15	22
	High	7	14	1	7
	Chi square Sig.	0.223		0.001 ^{a,*}	
NCA	Low	49	51	57	22
	Medium	20	53	13	23
	High	12	29	7	14
	Chi square Sig.	0.007*		0.000*	
ANH	Low	45	67	29	28
	Medium	23	54	25	26
	High	13	12	23	5
	Chi square Sig.	0.107		0.009*	
LHP	Low	43	64	25	35
	Medium	36	49	41	16
	High	2	20	11	8
	Chi square Sig.	0.013*		0.004*	
Results are based on nonempty rows and columns in each innermost sub table.					
*. The Chi-square statistic is significant at the .05 level.					
a. More than 20% of cells in this sub table have expected cell counts less than 5. Chi-square results may be invalid.					
c. The minimum expected cell count in this sub table is less than one. Chi-square results may be invalid.					

Correlation Coefficient:

Pearson correlation coefficients were calculated for all factors to assess the associations between tendency toward high-risk behaviour and various factors of high-risk behaviour for N=350.

The results show that the variables that are significantly correlated with high-risk behaviour tendencies are:

- . Thrill seeking inclination
- . Apathetic attitude
- . Social alienation
- . Need for instant gratification

- . Non-conforming mindset
- . Anxiety
- . Under-performance
- . Conflicting parental expectations
- . Impulsivity

From Table-5, it can be seen that these variables are positively correlated with high-risk behaviours. Furthermore, among these, four factors i.e. Thrill seeking inclination, Need for instant gratification, Non-conforming mindset and Impulsivity are highly correlated with a tendency toward high-risk behaviour.

Table-5

Correlations		HRB_Tendency
LSE	Pearson Correlation	-0.022
	Sig. (2-tailed)	0.683
LST	Pearson Correlation	0.087
	Sig. (2-tailed)	0.105
LEQ	Pearson Correlation	0.010
	Sig. (2-tailed)	0.857
PMC	Pearson Correlation	0.094
	Sig. (2-tailed)	0.078
HSH	Pearson Correlation	0.026
	Sig. (2-tailed)	0.623
TSB	Pearson Correlation	0.680**
	Sig. (2-tailed)	0.000
ABH	Pearson Correlation	0.420**
	Sig. (2-tailed)	0.000
SAH	Pearson Correlation	0.216**
	Sig. (2-tailed)	0.000
NIG	Pearson Correlation	0.648**
	Sig. (2-tailed)	0.000
NCA	Pearson Correlation	0.736**
	Sig. (2-tailed)	0.000
ANH	Pearson Correlation	0.155**
	Sig. (2-tailed)	0.004
LHP	Pearson Correlation	0.118*
	Sig. (2-tailed)	0.028
CPE	Pearson Correlation	0.202**
	Sig. (2-tailed)	0.000
IMH	Pearson Correlation	0.635**
	Sig. (2-tailed)	0.000

** . Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Regression Analysis

An ordinal regression analysis is estimated to investigate whether various potential behavioural factors predict the actual indulgence in high risk behaviour (“low,” “medium,” “high”).

Table 6.1
Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	737.966			
Final	252.123	485.843	18	0.000

The significant chi-square statistic ($p < .0001$) indicates that the Final model gives better predictions of high risk behaviour among the respondents.

Table 6.2
Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	351.541	516	1.000
Deviance	233.947	516	1.000

The goodness-of-fit table (Table 6.2) suggests that the observed data are consistent with the fitted model, as we accept the null hypothesis and conclude that the data and the model predictions are similar, and we have a good model ($p > .05$).

Table 6.3 Pseudo R-Square

Cox and Snell	0.750
Nagelkerke	0.846
McFadden	0.637

In Table 6.3, the pseudo R square values (Nagelkerke = 85%) indicate that factors of high risk behaviour are good predictors of the likelihood of indulgence in high risk behaviour. The parameter estimates (Table 6.4) indicate that in most cases, the relationship between the factors and high-risk behaviour is significant ($p > .05$). The negative significant value in the parameter estimates suggests that respondents who possess low and medium levels of characteristics in the factors are less likely to indulge in high-risk behaviour. Respondents who do not possess the characteristics of social alienation are less likely to exhibit high-risk behaviour. Similar to Anxiety, lower anxiety lowers the tendency to engage in high-risk behaviours. We can conclude that Thrill seeking inclination, Apathetic attitude, Social alienation, Need for instant gratification, Non-conforming mindset, Anxiety, Under-performance, Conflicting parental expectations are good predictors of high-risk behaviour. If these can be minimised, controlled, or positively influenced in adolescence, then there is a possibility of preventing adolescents from indulging in high-risk behaviour.

Table 6.4

Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	High Risk Behaviour = 1	-20.310	2.116	92.112	1	.000	-24.458	-16.163
	High Risk Behaviour = 2	-14.607	1.782	67.187	1	0.000	-18.100	-11.114
Location	[TSB=2]	-2.270	0.613	13.719	1	0.000	-3.471	-1.069
	[TSB=3]	-1.358	0.564	5.805	1	0.016	-2.462	-0.253
	[ABH=2]	-2.862	0.885	10.470	1	0.001	-4.596	-1.129
	[SAH=2]	-4.142	0.577	51.456	1	0.000	-5.274	-3.010
	[SAH=3]	-2.077	0.501	17.217	1	0.000	-3.058	-1.096
	[NIG=2]	-3.300	0.535	38.080	1	0.000	-4.348	-2.252
	[NIG=3]	-1.775	0.471	14.198	1	0.000	-2.698	-0.852
	[NCA=2]	-3.439	0.580	35.181	1	0.000	-4.576	-2.303
	[NCA=3]	-1.998	0.552	13.091	1	0.000	-3.081	-0.916
	[ANH=2]	-3.408	0.548	38.713	1	0.000	-4.482	-2.335
	[ANH=3]	-1.240	0.505	6.027	1	0.014	-2.231	-0.250
	[LHP=2]	-2.541	0.573	19.662	1	0.000	-3.664	-1.418
	[LHP=3]	-1.265	0.538	5.532	1	0.019	-2.320	-0.211
	[CPE=2]	-2.216	0.684	10.492	1	0.001	-3.556	-0.875
	[IMH=2]	-1.868	0.772	5.849	1	0.016	-3.382	-0.354
[IMH=3]	-1.338	0.772	3.001	1	0.083	-2.851	0.176	

Conclusion

Adolescence is a phase of rapid growth and development characterised by physical, sexual, and emotional changes. Adolescents are not a homogeneous group and their behaviours are strongly influenced by a multiplicity of factors, including but not limited to gender, family background, school environment, personality characteristics, and socio-economic conditions. The challenges faced by adolescents are of growing interest to researchers.

In the present study, it was found that the high-risk behaviour tendency in adolescents in private schools is relatively higher than that in those in government schools. Likewise, adolescents belonging to the joint family set-up are more susceptible to high-risk behaviour, contrary to common belief in Indian society. With respect to gender, there was no significant difference between boys and girls in terms of their tendency to take risks.

In terms of factors, nine out of the studied fourteen factors, namely, Thrill seeking inclination, Apathetic attitude, Social alienation, Need for instant gratification, Non-conforming mindset, Anxiety, Under-performance, Conflicting parental expectations, and Impulsivity are positively correlated with high-risk behaviour tendencies in adolescents. Out of these nine factors, four factors, namely Thrill seeking inclination, Need for instant gratification, Non-conforming mindset and Impulsivity, showed a high positive correlation with tendency toward high-risk behaviour.

With respect to the impact of various factors on the behaviour of adolescents with a specific inclination to risk taking, Thrill seeking inclination, Apathetic attitude, Social alienation, Need for instant gratification, Non-conforming mindset, Anxiety, Under-performance, Conflicting parental expectations are good predictors of high-risk behaviour. If these can be minimised, controlled, or positively influenced in adolescence, then there is a possibility of preventing adolescents from indulging in high-risk behaviour.

This study also suggests that the surrounding environment, whether school or family, has a great influence on adolescents' risk-taking behaviour. Indulgence in high-risk behaviours is highly influenced by behavioural and personality characteristics. Based on the findings of the study, targeted interventions and strategies can be developed for students displaying certain behavioural and personality traits that can make them more vulnerable to risk-taking. In addition, the type of school and family characteristics can be studied in greater detail to understand the dynamics that exist in these setups. There is an immediate need to formalise focused and culturally relevant models based on the aforementioned factors to involve not only adolescents but also other stakeholders, such as their caregivers, teachers, academic institutes, health care providers, and policymakers, to modify the perceived environment of these adolescents. According to Prof. Alan R. Lang, a psychology professor at Florida State University, "if we can better identify personality-related factors, they can help us devise better treatment and can open up new strategies to intervene and break the patterns of addiction in adolescents." Hence, if efforts are made to modify the behaviour or control the environment of adolescents, then there is a chance of preventing high-risk behaviour because prevention of high-risk behaviour is easier, more cost-effective, and certainly less burdening than its treatment, remediation, and dealing with its consequences.

Conflicts of interest

All authors declare no conflict of interest. The purpose of this study is to gain greater insight into the factors that lead to risk-taking behaviour in adolescents, as part of the Ph.D. thesis of the corresponding author. No funding was received from anyone for the purposes of this study and publication.

Author contributions

Kamal G Manwani: Conceptualization (equal); Data curation (equal); Formal analysis (equal); Funding acquisition (equal); Methodology (equal); Visualization (equal); Writing – original draft (equal); Writing – review & editing (equal). Mahima Gupta: Conceptualization (equal); Methodology (equal); Writing – original draft (equal); Writing – review & editing (equal).

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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