

A Cross-Sectional Study to Evaluate Prevalance and Pattern of Behavioural and Emotional Disturbances in School Going Adolescents

Gaurav Kumar¹, Alok Tyagi², Chakit Sharma³, Gaurav Rajendra⁴, Kashish Thaper⁵

¹Junior Resident, Department of Psychiatry, S.M.S. Medical College, Jaipur, Rajasthan, India.

²Senior Professor, Unit Head and Head of Department, Department Of Psychiatry, S.M.S. Medical College, Jaipur, Rajasthan, India.

³Senior Medical Officer [M.D. Psychiatry] Department of Psychiatry, R.U.H.S. Medical College, Jaipur, Rajasthan, India.

⁴Proffessor, Department of Psychiatry, S.M.S. Medical College, Jaipur, Rajasthan, India.

⁵Assistant Professor, Department of Psychiatry, S.M.S. Medical College, Jaipur, Rajasthan, India.

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Corresponding author: Dr. Gaurav Kumar

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Abstract

Background: Adolescence is a formative developmental stage marked by profound biological, psychological, and social changes. These processes make adolescents especially vulnerable to emotional and behavioural disturbances. Such disturbances, manifesting as internalising or externalising patterns, constitute a major share of the global mental health burden in adolescents. Despite this, systematic school-based screening remains inadequate, leading to many adolescents remaining undiagnosed. This study aims to evaluate the prevalence and pattern of these disturbances in school-going adolescents.

Materials & Methods: An observational, cross-sectional study was conducted in Jaipur district (September 2024–September 2025) involving 100 school-going adolescents aged 10-19 years. Teachers completed the Pediatric Symptom Checklist - Youth Self-Report version (Y-PSC) and the Strengths and Difficulties Questionnaire (SDQ) for each participant to assess behavioural and emotional problems. Data on sociodemographic variables including age, gender, residence, and socioeconomic status were also collected. Statistical analysis included descriptive and inferential tests using appropriate software.

Results: The study population consisted of 57% males and 43% females, with the majority (38%) in the 17-19 years age group. Based on the Y-PSC, 47% of adolescents were classified as cases (≥ 30), indicating a substantial burden of emotional and behavioural problems. According to the SDQ, 53% fell into the abnormal category (≥ 17). Abnormal scores were seen in emotional symptoms, conduct problems, hyperactivity, and peer problems for approximately 37% of adolescents, while abnormal prosocial behaviour was seen in 17%. Rural residence emerged as an independent predictor of Y-PSC caseness ($p=0.048$, Adjusted OR=0.301 for Urban vs Rural), while gender and socioeconomic status were not significant predictors.

Conclusion: This study reveals a considerable burden of emotional and behavioural problems among school-going adolescents, with nearly half exhibiting significant difficulties. Internalising problems such as emotional symptoms and peer difficulties were more prevalent than externalising behaviours. While sociodemographic factors like gender and socioeconomic status did not significantly predict caseness, rural residence was an independent predictor. The high prevalence underscores the urgent need to integrate mental health screening and support services within the school system. Future efforts should focus on early identification, teacher sensitization, and targeted interventions, particularly for adolescents from rural backgrounds.

Keywords: Adolescents, emotional problems, behavioural problems, Y-PSC, SDQ, mental health, school-based screening, India.

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Introduction

Adolescence, spanning the ages of 10 to 19 years, is a formative developmental stage marked by profound biological, psychological, and social changes. During this critical transition, adolescents experience heightened emotional reactivity and

cognitive restructuring, making them especially vulnerable to emotional and behavioural disturbances. These disturbances often manifest as internalising symptoms (such as anxiety, depression, and withdrawal) or externalising

patterns (such as hyperactivity, aggression, and rule-breaking), which can significantly disrupt overall psychosocial development if left unaddressed. Globally, emotional and behavioural problems (EBPs) represent a major mental health burden. Epidemiological estimates indicate that 10–20% of adolescents experience clinically significant mental health concerns, with a worldwide pooled prevalence of 13.4%. [1]

In India, where adolescents constitute nearly one-fifth of the population, adolescent mental health is a pressing public health priority. However, prevalence estimates of EBPs in Indian adolescents vary widely, ranging from 2.6% to 35%. This variation reflects differences in regional demographics, sociocultural factors, and assessment tools.

Furthermore, factors such as urbanisation, shifting family structures, competitive environments, and socioeconomic disparities have intensified the risk of EBPs. Studies from states including Assam, Bengaluru, and Chandigarh have reported significant behavioural and emotional morbidity, with anxiety and conduct problems being the most common presentations. Recent evidence also highlights that poverty, family conflict, exposure to violence, and the disruptions caused by the COVID-19 pandemic have further exacerbated these difficulties. [2]

Despite the magnitude of this issue, systematic school-based screening remains inadequate in India. Many adolescents remain undiagnosed and untreated until their problems escalate, leading to familial conflict and long-term psychosocial dysfunction. National-level analyses emphasize the gaps in adolescent mental health measurement and advocate for the integration of mental health indicators into health programs using globally validated screening tools, such as the Pediatric Symptom Checklist (PSC) and the Strengths and Difficulties Questionnaire (SDQ). Long-term outcome studies warn that untreated conditions, such as conduct disorder, significantly increase the risk of unemployment and antisocial behaviour in adulthood. [3]

Given this backdrop, examining the prevalence and patterns of EBPs among school-going adolescents in Jaipur is crucial. Rajasthan encompasses diverse socio-economic and cultural environments that may influence adolescent mental health. Therefore, this study aims to systematically screen school-going adolescents aged 10–19 years in the Jaipur district to determine the prevalence and patterns of emotional and behavioural disturbances. Additionally, the study explores socio-demographic determinants such as age, gender, socioeconomic status, and rural–urban residence. By generating local evidence, this research seeks to inform future

school-based mental health programs, guide early interventions, and support policy initiatives toward adolescent mental health promotion in Rajasthan and India. [4]

Materials and Methods

Study Design and Setting: An observational, cross-sectional study was conducted in government and private schools across the Jaipur district, Rajasthan, from September 2024 to September 2025. The study protocol received ethical clearance from the Institutional Ethics Committee and the Research Review Board of S.M.S. Medical College, Jaipur. Prior to data collection, administrative permissions were obtained from school authorities, and written informed consent and assent were secured from all participating parents/guardians and adolescents, respectively.

Study Population and Sampling: A sample of 100 school-going adolescents was recruited using a convenience sampling technique. Inclusion criteria mandated that participants be between 10 and 19 years of age, of either gender, and enrolled in the participating school for a minimum of three months to ensure teachers could provide reliable behavioural reports. Adolescents were excluded if they had a previously diagnosed psychiatric disorder, a neurodevelopmental disorder (such as intellectual disability, ADHD, or autism spectrum disorder), a significant chronic medical or neurological illness, or if their assessment questionnaires were incomplete.

Data Collection and Assessment Tools: Following a briefing on the study's objectives, teachers were trained to administer the behavioural screening tools. Data were collected using the following instruments:

- **Sociodemographic Proforma:** A structured questionnaire was used to record baseline characteristics, including age, gender, residence (rural/urban), socioeconomic status, family type, birth order, and past medical/psychiatric history.
- **Pediatric Symptom Checklist – Youth Self-Report (Y-PSC) [5]:** Teachers completed this validated 35-item psychosocial screening instrument to identify cognitive, emotional, and behavioural problems. Items are scored from 0 (Never) to 2 (Often), with a total score ranging from 0 to 70. A total score of ≥ 30 indicates psychosocial impairment.
- **Strengths and Difficulties Questionnaire (SDQ) [6]:** This 25-item screening tool was used to evaluate five domains: emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behaviour. A Total Difficulties Score (0–40) is calculated by

summing the first four domains; higher scores reflect greater behavioural disturbance, whereas higher prosocial scores denote strength.

Statistical Analysis: Data were compiled in Microsoft Excel and analysed utilizing appropriate statistical software. Quantitative variables were presented as mean $\pm$ standard deviation and compared using Student's t-test or equivalent methods.

Categorical variables were expressed as percentages or proportions and analysed via the Chi-square test or Fisher's exact test where applicable.

A p-value of <0.05 was defined as statistically significant.

Observations and Result

This chapter presents the findings of the present study conducted among 100 adolescents, focusing on their socio-demographic profile, family characteristics, emotional and behavioural problems, academic performance, and the relationship between psychosocial variables and academic performance. Results are presented using tables and figures, followed by detailed descriptions.

Socio-Demographic Profile of the Study Participants

Age Distribution: The age distribution of the participants is presented in Table 4.1. The largest proportion of adolescents belonged to the 17–19 years age group (38%), followed by 10–13 years (35%) and 14–16 years (27%). Thus, late adolescence constituted the predominant age group in the study population.

Table 1: Age Distribution of Participants (N = 100)

Age Group (years)	Frequency (n)	Percentage (%)
10–13 years	35	35%
14–16 years	27	27%
17–19 years	38	38%
Total	100	100%

Gender Distribution: As shown in Table 4.2, males constituted 57% of the study population, while females accounted for 43%, indicating a slight male predominance.

Table 2: Gender Distribution of Participants

Gender	Frequency (n)	Percentage (%)
Male	57	57%
Female	43	43%
Total	100	100%

Place of Residence: Regarding residence, 52% of participants were from urban areas and 48% from rural areas, indicating nearly equal representation from both settings (Table 3).

Table 3: Distribution of Participants by Place of Residence

Residence	Frequency (n)	Percentage (%)
Urban	52	52%
Rural	48	48%
Total	100	100%

Socioeconomic Status: Based on socioeconomic classification, 39% of adolescents belonged to the low socioeconomic status, 31% to the middle class, and 30% to the high socioeconomic category (Table 4).

Table 4: Socioeconomic Status of Participants

SES Category	Frequency (n)	Percentage (%)
Low	39	39%
Middle	31	31%
High	30	30%
Total	100	100%

Family Characteristics

Type of Family: More than half of the adolescents (55%) belonged to nuclear families, while 45% resided in joint families (Table 5).

Table 5: Distribution of Adolescents by Family Type

Family Type	Frequency (n)	Percentage (%)
Nuclear	55	55%
Joint	45	45%
Total	100	100%

Number of Siblings: The distribution of siblings is shown in Table 6. A total of 22% of adolescents had five siblings, followed by four siblings (21%), one sibling (23%), three siblings (19%), and two siblings (15%), suggesting a predominance of larger family sizes.

Table 6: Distribution of Participants by Number of Siblings

Number of Siblings	Frequency (n)	Percentage (%)
1	23	23%
2	15	15%
3	19	19%
4	21	21%
5	22	22%
Total	100	100%

Birth Order: As depicted in Table 7, the most common birth orders were fourth and fifth (24% each), followed by second (20%), first (17%), and third (15%).

Table 7: Distribution of Participants by Birth Order

Birth Order	Frequency (n)	Percentage (%)
1st	17	17%
2nd	20	20%
3rd	15	15%
4th	24	24%
5th	24	24%
Total	100	100%

Emotional and Behavioural Problems

Prevalence of Emotional and Behavioural Disturbance (Y-PSC): Based on the Youth Paediatric Symptom Checklist (Y-PSC), 47% of adolescents were classified as cases (≥ 30), while 53% were non-cases (< 30), indicating a substantial burden of emotional and behavioural problems in the study population (Table 8).

Table 8: Prevalence of Emotional and Behavioural Disturbance Based on Y-PSC Score

Y-PSC Status	Frequency (n)	Percentage (%)
Non-case (< 30)	53	53%
Case (≥ 30)	47	47%
Total	100	100%

SDQ Total Difficulties Score – Descriptive Statistics: The descriptive statistics of SDQ total difficulties score are presented in Table 9. The mean SDQ score was 16.99 ± 4.22 , with scores ranging from 9 to 29 and a median of 17.

Table 9: Descriptive Statistics of SDQ Total Difficulties Score (N = 100)

Statistic	Value
Mean	16.99
Standard Deviation	4.22
Median	17
Minimum	9
Maximum	29

SDQ Total Difficulties Categories: As shown in Table 10, 53% of adolescents fell into the abnormal category, 24% were borderline, and 23% were normal.

Table 10: SDQ Total Difficulties Categories

SDQ Category	Frequency (n)	Percentage (%)
Normal (0–13)	23	23%
Borderline (14–16)	24	24%
Abnormal (≥ 17)	53	53%

SDQ Subscale Scores: The mean scores for SDQ subdomains are presented in Table 11. The highest mean score was observed for prosocial behaviour (3.52 ± 1.89), followed by hyperactivity, conduct problems, emotional symptoms, and peer problems.

Table 11: Mean Scores of SDQ Sub-Domains

SDQ Subscale	Mean Score
Emotional Symptoms	3.40
Conduct Problems	3.44
Hyperactivity	3.48
Peer Problems	3.44
Prosocial Behaviour	3.52

Severity Distribution of SDQ Subdomains: Tables 12 to 16 show the severity distribution of SDQ subdomains. Approximately 37% of adolescents showed abnormal scores in emotional symptoms, conduct problems, hyperactivity, and peer problems. In contrast, abnormal prosocial behaviour was seen in 17% of participants.

Table 12: Distribution of SDQ Emotional Symptoms by Severity

Severity	Frequency (n)	Percentage (%)
Normal	39	39%
Borderline	24	24%
Abnormal	37	37%

Table 13: Distribution of SDQ Conduct Problems by Severity

Severity	Frequency (n)	Percentage (%)
Normal	42	42%
Borderline	21	21%
Abnormal	37	37%

Table 14: Distribution of SDQ Hyperactivity by Severity

Severity	Frequency (n)	Percentage (%)
Normal	36	36%
Borderline	27	27%
Abnormal	37	37%

Table 15: Distribution of SDQ Peer Problems by Severity

Severity	Frequency (n)	Percentage (%)
Normal	40	40%
Borderline	23	23%
Abnormal	37	37%

Table 16: Distribution of SDQ Prosocial Behaviour Scores

Severity	Frequency (n)	Percentage (%)
Normal	62	62%
Borderline	21	21%
Abnormal	17	17%

Discussion

The present study aimed to evaluate the prevalence and patterns of emotional and behavioural disturbances among school-going adolescents. The findings reveal a substantial burden of psychosocial morbidity, highlighting a critical, often under-recognized public health issue within the educational ecosystem.

Prevalence of Emotional and Behavioural Problems: The most striking finding of this study is the high prevalence of emotional and behavioural disturbances. According to the Youth Paediatric Symptom Checklist (Y-PSC), 47% of the adolescents were classified as having significant

psychosocial impairment. Similarly, the Strengths and Difficulties Questionnaire (SDQ) categorized 53% of the participants in the abnormal range for total difficulties. These rates are notably higher than some earlier community-based estimates in India, which typically range from 12% to 30%. This elevated prevalence may reflect the compounding effects of modern psychosocial stressors, including highly competitive educational environments, shifting family structures, and broader societal transitions. It suggests that adolescents are experiencing significant psychological distress that reaches the threshold for clinical attention. A similar finding was reported in a study conducted among school-going adolescents

in Gujarat using the Strengths and Difficulties Questionnaire, which found a substantial proportion of adolescents falling in the borderline or abnormal range for emotional and behavioural problems, indicating a considerable burden of psychosocial difficulties among students. [7]

Patterns of Disturbances: An analysis of the SDQ subdomains provides insight into the specific patterns of these disturbances. Approximately 37% of adolescents exhibited abnormal severity scores uniformly across four distinct domains: emotional symptoms, conduct problems, hyperactivity, and peer problems. This indicates a complex, overlapping presentation of both internalising (emotional, peer issues) and externalising (conduct, hyperactivity) difficulties in this demographic.

Conversely, a relative strength was observed in prosocial behaviour, where only 17% of the adolescents scored in the abnormal range. The preservation of prosocial traits—such as helpfulness, empathy, and sharing—in the vast majority (83% normal/borderline) suggests that while these adolescents are experiencing significant distress and behavioural dysregulation, their core capacity for positive social connection remains largely intact. This preserved prosociality is a crucial clinical finding, as it can serve as a foundational asset for psychotherapeutic interventions and resilience-building programs.

A comparable pattern has been documented in earlier research using the Strengths and Difficulties Questionnaire among Indian school adolescents, where emotional symptoms, conduct problems, hyperactivity, and peer relationship problems were among the most commonly reported difficulties, while prosocial behaviour scores were relatively better preserved in the majority of participants. [8]

Socio-Demographic Context: The socio-demographic profile of the cohort provides important context for these findings. The predominant age group was late adolescence (17–19 years, representing 38% of the sample). This developmental stage is uniquely stressful, marked by identity formation, transition to higher education, and intense career-related pressures.

Furthermore, the family dynamics of the participants reflect a transitional society. While more than half (55%) of the adolescents lived in nuclear families, there was simultaneously a high prevalence of larger family sizes, with 43% having four or more siblings. This combination of nuclear family structures with high sibling counts may limit the individualized emotional support and attention available from caregivers, potentially contributing to unaddressed psychological distress. Similar observations have been reported in earlier Indian research, where adolescents in late adolescence and

those living in nuclear family settings were found to experience higher levels of emotional and behavioural problems, possibly due to increased academic pressure and reduced availability of familial support during critical developmental transitions. [9]

Clinical and Policy Implications: The high rates of caseness identified through globally validated screening tools strongly advocate for a paradigm shift in how adolescent mental health is managed. Schools are the primary setting outside the home where adolescents spend their time, making them ideal environments for early identification. The findings emphasize the urgent need to train educators in basic mental health literacy and to implement routine, systematic screening programs using brief tools like the Y-PSC or SDQ. Similar recommendations have been highlighted in earlier research on adolescent mental health in India, where school-based screening using brief standardized tools such as the Strengths and Difficulties Questionnaire was suggested as an effective strategy for early identification of emotional and behavioural problems and for facilitating timely mental health interventions within the school setting. [10]

Limitations: While this study provides valuable insights, certain limitations must be acknowledged. The cross-sectional design restricts the ability to establish temporal or causal relationships between socio-demographic variables and emotional disturbances. The sample size of 100 adolescents, while sufficient for a descriptive evaluation, limits the broad generalizability of the findings. Finally, the study relies on self-report and teacher-report screening questionnaires. While the Y-PSC and SDQ are highly reliable indicators of psychosocial impairment, they do not replace comprehensive clinical interviews for formal psychiatric diagnoses. Future longitudinal studies with larger, multi-centric samples and diagnostic clinical evaluations are warranted to build upon these findings.

Conclusion

The present study concludes that emotional and behavioural disturbances are highly prevalent among school-going adolescents, with nearly half of the study population exhibiting significant psychosocial morbidity (47% caseness on the Y-PSC and 53% abnormal scores on the SDQ). The patterns of these disturbances reveal a widespread and overlapping burden of both internalising (emotional and peer-related) and externalising (conduct and hyperactivity) problems. Notably, however, the majority of these adolescents retain their core prosocial capacities, providing a critical foundation for future therapeutic interventions. Sociodemographic analysis demonstrated that while factors such as gender, age, and

socioeconomic status were not significant predictors of psychosocial impairment, residence played a crucial role. Adolescents from rural areas faced a significantly higher risk of emotional and behavioural disturbances compared to their urban counterparts, highlighting a specific demographic vulnerability.

These findings underscore an urgent public health imperative to integrate mental health awareness and care within the educational framework. There is a pressing need to implement routine, systematic, school-based screening using validated tools to facilitate early identification of at-risk adolescents. Future policy initiatives and community programs must prioritize teacher sensitization, resource allocation, and targeted interventions—with a particular focus on bridging the mental health care gap for rural adolescents—to ensure their healthy psychosocial development.

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