

Mental Health Among High School Students: A Comparative Study Based on Gender and Schooling Type

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ABSTRACT

Adolescent mental health is a critical determinant of psychosocial adjustment and academic achievement. This study aimed to examine the level of mental health among high school students and analyze differences based on gender and type of schooling (residential vs. non-residential). A quantitative causal-comparative research design was employed involving 200 high school students (100 boys and 100 girls; aged 14–16 years) selected via convenience sampling from schools across Karnataka, India. Data were collected using the standardized Mental Health Battery (MHB) developed by Singh and Sen Gupta, which evaluates multiple dimensions of mental health with established reliability ($\alpha = 0.72\text{--}0.87$). Data were analyzed using descriptive statistics and independent samples t-tests. The descriptive findings revealed an alarming prevalence of psychological vulnerability, with 61% of students falling into poor (47%) and very poor (14%) mental health categories, while only 1% demonstrated good mental health. Inferential analysis indicated significant gender differences, with female students exhibiting significantly higher overall mental health scores than male students ($t = 2.88, p = .004$). Furthermore, residential school students demonstrated significantly superior mental health compared to their non-residential peers ($t = 5.46, p = .001$). These findings underscore the protective nature of structured educational environments and highlight the urgent necessity for targeted, school-based mental health interventions and institutional counseling frameworks tailored to adolescent boys and day scholars.

Introduction

Adolescence is a vital developmental phase marked by profound physiological, psychological, and social transitions. During this period, individuals must negotiate academic demands, peer dynamics, identity formation, and the developmental push toward autonomy. In contemporary educational settings, high school students are increasingly subjected to acute academic pressure, intense examinations, competitive expectations, and social stressors, which collectively pose significant threats to their psychological well-being (Patel et al., 2007).

According to the World Health Organization (2021), mental health is defined as a state of psychological and emotional well-being that enables individuals to realize their potential, cope with normal life stressors, study and work productively, and contribute

positively to their communities. Rather than being simply the absence of mental disorders, mental health encapsulates emotional resilience, self-efficacy, positive self-esteem, and social adaptability. Within the socio-cultural and educational context of India, escalating academic competition, societal pressures regarding career trajectories, and the systemic scarcity of comprehensive school-based psychological counseling services have generated growing public health concerns regarding adolescent mental distress.

Theoretical paradigms and empirical literature indicate that adolescent psychological functioning is shaped by individual characteristics as well as proximal environmental systems. Among individual variables, gender differences have consistently emerged as a crucial factor in emotion regulation, cognitive appraisal, and the manifestation of psychological distress (Nolen-Hoeksema, 2012). While some literature highlights higher emotional vulnerability and internalizing disorders among females, other evidence suggests that differences in coping mechanisms and social connectedness provide differential protective buffers across genders.

Concurrently, the immediate ecological context of schooling constitutes a fundamental environmental determinant of adolescent well-being. Residential schooling environments provide institutional routines, structured daily schedules, collaborative living quarters, and continuous access to peer support networks. In contrast, non-residential (day-school) environments expose adolescents to alternating family responsibilities, varying home stressors, daily commuting burdens, and less standardized academic routines (Kumar & Singh, 2014).

Despite substantial research on adolescent stress globally, comparative evidence detailing the intersection of gender and schooling models within regional Indian contexts remains limited. Addressing these disparities is necessary for developing targeted institutional interventions and educational policies. Therefore, the present study was conducted to examine the overall level of mental health among high school students in Karnataka and to empirically determine the differences in mental health scores based on gender (boys vs. girls) and the type of schooling environment (residential vs. non-residential).

Method

Research Design

This study implemented a quantitative, causal-comparative (ex-post facto) and descriptive survey research design. A causal-comparative approach was chosen to investigate potential differences in the dependent variable (mental health status) across predetermined categorical independent groups (gender and type of schooling) without active experimental manipulation.

Participants and Sampling

The sample consisted of 200 high school students enrolled in secondary schools in the State of Karnataka, India. Participants were selected using convenience sampling across designated secondary educational institutions. The age of the participants ranged from 14 to 16 years, corresponding to the critical developmental phase of middle to late

adolescence. The sample was balanced across the demographic categories:

1. Gender Subgroups: 100 Boys (50%) and 100 Girls (50%).
2. Schooling Type Subgroups: 100 Residential school students (50%) and 100 non residential (day-school) students (50%).

Research Instrument

Data were gathered using the standardized Mental Health Battery (MHB) developed and standardized by Singh and Sen Gupta (1987). The MHB is designed to evaluate overall mental health index across multiple core psychosocial dimensions. The battery demonstrates robust psychometric properties, with established reliability coefficients ranging from 0.72 to 0.87 across its sub-dimensions and total composite score. Standardized norms were utilized to categorize total raw scores into four primary diagnostic levels: Very Poor, Poor, Average, and Good mental health.

Data Collection Procedure

Prior to administration, institutional permissions were obtained from the administration of the participating schools. Questionnaires were administered to participants in group settings within their respective school classrooms under standardized testing conditions. Participants were briefed on the objectives of the study, and confidentiality was maintained throughout data collection.

Data Analysis

Quantitative data processing was conducted using statistical software. Descriptive statistics including frequency counts, percentages, means (M), and standard deviations (SD) were computed to profile the distribution and baseline levels of adolescent mental health. To test the comparative hypotheses, inferential analysis via Independent Samples t-Tests was conducted to determine whether statistically significant mean differences existed between genders (boys vs. girls) and schooling systems (residential vs. non-residential). The threshold for statistical significance was established at $\alpha = .05$ and $\alpha = .01$.

Results and Discussion

Descriptive Analysis: Levels of Mental Health

The initial stage of analysis evaluated the distribution of mental health status across the total sample of high school students (N = 200). Categorical classifications were derived from the standard normative scoring of the Mental Health Battery.

Table 1. Distribution of Mental Health Levels among High School Students (N = 200)

Level of Mental Health	Frequency (f)	Percentage (%)
Good	2	1.0%
Average	76	38.0%
Poor	94	47.0%
Very Poor	28	14.0%
Total	200	100.0%

Source: Primary Research Data (2024)

As presented in Table 1, the descriptive findings indicate that a substantial proportion of secondary school students exhibit compromised psychological functioning.

Specifically, 47.0% (n = 94) of the participants fell into the Poor mental health category, and an additional 14.0% (n = 28) scored within the Very Poor category. In combination, 61.0% of the sample demonstrated sub-optimal or vulnerable mental health profiles. Conversely, 38.0% (n = 76) of respondents fell within the Average range, while only 1.0% (n = 2) achieved scores reflecting Good mental health.

Comparative Analysis Based on Gender

To examine whether mental health differed significantly between male and female students, an independent samples t-test was conducted on the total MHB composite scores.

Table 2. Gender Differences in Total Mental Health Scores among High School Students
(N = 200)

Gender	N	Mean (M)	Standard Deviation (SD)	t-value	p-value
Girls	100	77.32	9.00	2.88	.004*
Boys	100	73.58	9.31		
Total	200				

Source: Primary Research Data (2024), *Significant at $p < .01$ level (df = 198)

As summarized in Table 2, the independent samples t-test revealed a statistically significant difference between male and female students, $t(198) = 2.88$, $p = .004$ ($p < .01$). Female high school students demonstrated significantly higher mental health scores ($M = 77.32$, $SD = 9.00$) than their male counterparts ($M = 73.58$, $SD = 9.31$).

Comparative Analysis Based on Type of Schooling

An independent samples t-test was similarly conducted to evaluate differences in mental health scores between students attending residential schools and those enrolled in non-residential (day) schools.

Table 3. Differences in Total Mental Health Scores Based on Type of Schooling
(N = 200)

Type of Schooling	N	Mean (M)	Standard Deviation (SD)	t-value	p-value
Residential School Students	100	78.82	6.09	5.46	.001*
Non-Residential School Students	100	72.08	10.71		
Total	200				

*Significant at $p < .01$ level (df = 198)

The statistical results shown in Table 3 illustrate that students enrolled in residential school environments scored significantly higher on total mental health ($M=78.82$, $SD=6.09$) compared to students attending non-residential institutions ($M=72.08$, $SD=10.71$), yielding a significant test statistic of $t(198)=5.46$, $p=.001$ ($p<.01$).

Discussion

The empirical results of this study show that 61% of high school students exhibited poor or very poor mental health levels, whereas only 1% showed good mental health. This pattern reflects substantial psychological vulnerability among contemporary

high school students. These observations corroborate the earlier findings of Patel et al. (2007) and the epidemiological frameworks of the World Health Organization (2021), which emphasize that modern adolescents face compounding stressors, including competitive academic evaluation systems, peer comparison, and family expectations without commensurate institutional psychosocial support. In regional contexts such as Karnataka, secondary schooling often emphasizes academic attainment, which may contribute to higher stress and compromised psychological well-being.

The finding that female students exhibited significantly higher overall mental health scores than male students provides notable theoretical insights. While classic psychopathology research often reports higher rates of internalizing symptoms (such as subjective anxiety and depression) among adolescent females, the broader construct of mental health as measured by the Mental Health Battery incorporates elements of emotional self-regulation, interpersonal adjustment, and social cooperation. As outlined by Nolen-Hoeksema (2012), adolescent girls frequently demonstrate higher utilization of expressive social support networks and more adaptive interpersonal coping strategies. Conversely, adolescent boys may experience socialization pressures to suppress emotional difficulties, leading to lower socio-emotional adjustment and reduced help-seeking behaviors.

Furthermore, the comparison between schooling environments demonstrated that residential school students maintained significantly higher mental health scores than non-residential students, accompanied by lower score variability ($SD = 6.09$ vs. $SD = 10.71$). This finding aligns with the research of Kumar and Singh (2014), which identified structured routines, integrated peer camaraderie, and direct pastoral oversight as protective elements in residential institutions. Residential environments typically feature regularized daily schedules that balance study, physical activity, and social recreation, buffering students against irregular sleep patterns and external domestic stressors.

In contrast, non-residential day students navigate daily commuting demands, variable domestic environments, potential familial stressors, and unstructured screen time, which can contribute to greater variance and lower overall stability in mental health outcomes.

Conclusion

This study examined the overall level of mental health among high school students in Karnataka and analyzed differences across gender and schooling environments. The findings indicate that psychological vulnerability is common among high school adolescents, with a majority exhibiting low mental health scores. Furthermore, female students displayed significantly better overall mental health status than male students, and students attending residential schools demonstrated significantly better psychological adjustment compared to day-school peers.

These outcomes emphasize that adolescent mental health is shaped by immediate educational structures and gender-specific coping dynamics. Consequently, educational policymakers and secondary school administrators should implement preventive mental

health frameworks, establish accessible on-campus guidance and psychological counseling centers, and introduce life skills education to support adolescent well-being, particularly for boys and non-residential students.

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