The Journal of Asia Entrepreneurship and Sustainability RESEARCH ARTICLE

A Study of Mental Health and Academic Achievement among Tribal Adolescent Students

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Abstract
The present study investigates the relationship between mental health and academic achievement among tribal adolescent students enrolled in government high schools. Mental health was assessed using the Mental Health Battery (MHB) developed by Kumar and Gupta (1987), which evaluates six dimensions: Emotional Stability, Overall Adjustment, Autonomy, Security-Insecurity, Self-Concept, and Intelligence. Academic achievement was measured through a standardized Mathematics Achievement Test covering arithmetic, algebra, and geometry. The study was conducted with a sample of 100 tribal adolescent students (50 boys and 50 girls) from six government schools in Petalawad block, Jhabua district, Madhya Pradesh. Pearson's correlation analysis was employed for data analysis. Results revealed no statistically significant gender difference in either mental health or academic achievement scores. However, a significant positive correlation was found between mental health and academic achievement among tribal adolescents. These findings underscore the critical need for mental health support systems within tribal educational institutions to foster better academic outcomes.

Keywords: *Mental Health; Academic Achievement; Tribal Adolescents; MHB; Gender Differences; Government Schools; Madhya Pradesh*

1. Introduction

Mental health and academic achievement are two interconnected pillars of adolescent development that have garnered increasing attention in educational psychology research. Mental health, broadly understood as the capacity to adapt effectively to diverse environmental challenges, is fundamental to a child's holistic development. In its absence, cognitive, emotional, and social growth can be significantly impaired. A mentally healthy individual is able to apply acquired knowledge and experience constructively in daily life, contributing to both personal well-being and social harmony (Kumar & Gupta, 1987).

Contemporary psychologists distinguish between the mere absence of mental illness and the presence of positive mental health. Even individuals considered mentally healthy may occasionally exhibit symptoms such as emotional volatility, affective instability, or sleep disturbances. Modern clinical psychologists, therefore, define mental health primarily in terms of adaptive capacity — the ability to maintain equilibrium with one's environment across varied and challenging circumstances (Strenge, 1965; Horwitz & Scheid, 1999).

Adolescence represents a particularly critical and vulnerable developmental stage. It is characterized by rapid biological, cognitive, and psychosocial transformation, identity exploration, heightened emotional sensitivity, and increased susceptibility to stress. For tribal adolescents, these normative developmental challenges are compounded by structural disadvantages including poverty, geographic marginalization, limited educational resources, cultural discontinuity between home and school environments, and inadequate access to psychological support services.

Tribal communities in India — recognized as Scheduled Tribes under the Fifth Schedule of the Indian Constitution — constitute a significant segment of the national population and are predominantly concentrated in states such as Madhya Pradesh, Odisha, Chhattisgarh, Rajasthan, Gujarat, Maharashtra, and the North-Eastern states. Despite their rich indigenous cultural heritage, tribal adolescents continue to face systemic barriers that adversely affect both their psychological well-being and educational outcomes.

The present study seeks to examine the relationship between mental health and academic achievement among tribal adolescent students in Petalawad block, Jhabua district — one of the highest tribal-density regions in Madhya Pradesh. By generating empirical evidence from this underserved population, the study aims to contribute to the evidence base for inclusive educational and mental health policy.

2. Conceptual Framework

2.1 Meaning and Definitions of Mental Health

Kuppuswamy defined mental health not as the mere absence of mental illness but as an active, positive quality of daily living — a harmonious functioning of body and mind directed toward a unified purpose, expressed through constructive habits, attitudes, and interpersonal orientations that generate personal satisfaction without conflicting with the social group to which the individual belongs.

Selected definitions across the literature include:

- Strenge (1965): Mental health refers to learned behaviors that are socially appropriate and that permit the individual to cope adequately with the demands of life.
- Horwitz & Scheid (1999): Mental health encompasses multiple dimensions — self-respect, experience of inner competence, capacity to maintain meaningful relationships, and psychological excellence.
- A.K. Singh & Alpana Sen Gupta (1987): Identified six principal dimensions of positive mental health: (1) Adjustment, (2) Emotional Stability, (3) Intelligence, (4) Autonomy, (5) Security-Insecurity, and (6) Activity Level.

2.2 Concept of Tribal Communities

The term 'tribal' (Adivasi) is derived from two Sanskrit words — 'Adi' (ancient/original) and 'vasi' (inhabitant) — signifying the original inhabitants of India. Tribal populations, constitutionally designated as Scheduled Tribes, are characterized by shared language, territory, social norms, and economic practices. They predominantly inhabit border regions, mountain ranges, and remote areas. Madhya Pradesh has the largest tribal population in India, primarily comprising two broad groups: northern communities of the Narmada valley and southern Gondwana communities.

2.3 Adolescence: Definition and Significance

Adolescence (from the Latin 'adolescere' — to grow toward maturity) is widely characterized as the most complex, dynamic, and stressful phase of the human lifespan. It bridges childhood and adulthood, encompassing puberty, identity formation, and preparation for adult roles. Hurlock described it as a period of multiple problems, while Dorothy Roger viewed it as a process of acquiring attitudes and beliefs essential for effective societal participation. Erikson's psychosocial theory identifies it as the stage of identity versus role confusion, making it especially significant for educational and psychological intervention.

2.4 Academic Achievement

Academic achievement refers to the level of performance attained by students in their formal educational assessments. In the present study, it is operationalized as the scores obtained by students in a standardized Mathematics Achievement Test covering arithmetic, algebra, and geometry — providing an objective, curriculum-aligned measure of scholastic performance.

3. Review of Related Literature

Holland (2016) examined the influence of stigmatizing attitudes toward mental health counseling among college students, controlling for stress and mental health. Results indicated that as stigmatizing attitudes increased, students were less willing to seek counseling services. Higher depression levels were associated with greater willingness to use counseling, and more adaptive coping strategies predicted greater willingness to follow institutional health recommendations, emphasizing the need for targeted mental health education programs.

Joshi (2022) investigated the mental health of senior secondary school students in relation to internet usage using the Mental Health Scale (MHS) developed by Talesara and Bano. Results indicated a statistically significant relationship between mental health and internet usage among secondary school students, highlighting digital behavior as an emerging correlate of adolescent psychological well-being.

Thapliyal (2022) studied the relationship between mental health and academic achievement among senior secondary students in Delhi using the MHS. Findings revealed a significant positive relationship between mental health and academic achievement, consistent with the hypothesis that psychological well-being facilitates better scholastic performance.

Arya, Dr. Mohan Lal & Priyanka (2022) examined the effect of mental stress on the academic achievement of secondary school students in Moradabad. The study emphasized that mental health is a prerequisite for the full development of human potential and that unresolved stress significantly impairs students' capacity to fulfill their academic and social roles.

Tripathi, Dr. Lokesh (2014) studied the effect of self-concept on the academic achievement of Scheduled Caste and Scheduled Tribe students, concluding that self-concept — a core dimension of mental health — significantly influences academic performance, particularly among socio-economically disadvantaged groups.

Namedev, Mrs. Manjusha & Kumar Pramod (2018) examined academic achievement among Gond tribal students across socio-economic backgrounds and gender. They observed that tribal communities in Madhya Pradesh, especially in southern regions, belong predominantly to Gondwana ethnic groups and that structural socio-economic factors significantly mediate educational outcomes.

O'Connor et al. (2019) employed matching analysis to examine the relationship between positive mental health and academic achievement in elementary schools, finding significant associations and identifying mental health promotion as a viable lever for improving scholastic outcomes.

4. Research Objectives and Hypothesis

Statement of the Problem:

A Study of Mental Health and Academic Achievement among Tribal Adolescent Students.

Research Objective:

To examine the correlation between mental health and academic achievement among tribal adolescent students.

Research Hypothesis:
There is no statistically significant correlation between mental health and academic achievement among tribal adolescent students (Null Hypothesis).

5. Research Methodology

5.1 Research Design

A descriptive survey research design was employed. This non-experimental, cross-sectional design is appropriate for examining existing conditions and relationships among variables in naturally occurring settings without manipulating any factors.

5.2 Sample and Sampling Procedure

The study was conducted in Petalawad developmental block, Jhabua district, Madhya Pradesh — a region with one of the highest concentrations of tribal population in India. Six government high schools were purposively selected from the block. From each school, students from Classes 9 and 10 were included. The final sample comprised 100 tribal adolescent students: 50 boys and 50 girls, selected through stratified random sampling to ensure balanced gender representation. Prior written permission was obtained from school principals, and informed assent was secured from all student participants.

5.3 Research Instruments

(a) Mental Health Battery (MHB) — Kumar & Gupta (1987):

The MHB contains 130 items distributed across six subscales: Emotional Stability, Overall Adjustment, Autonomy, Security-Insecurity, Self-Concept, and Intelligence. Scoring: 1 mark for correct response, 0 for incorrect. The battery has established reliability and validity for use with Indian adolescent populations.

(b) Mathematics Achievement Test — L.N. Dube:

A standardized achievement test covering three content domains: Arithmetic, Algebra, and Geometry. The test provides a curriculum-aligned, objective measure of academic performance at the secondary school level.

5.4 Data Collection Procedure

Both instruments were administered in standardized group sessions during regular school hours. Instructions were provided in Hindi to ensure comprehension. Each administration session lasted approximately 90 minutes. Data were collected over a period of four weeks. Ethical guidelines were strictly observed, and student anonymity was maintained throughout.

5.5 Statistical Analysis

Descriptive statistics (mean and standard deviation) were computed for mental health and academic achievement scores by gender. Pearson's product-moment correlation coefficient (r) was calculated to examine the relationship between mental health and academic achievement. The z-test was applied for gender-based group comparisons. Statistical significance was evaluated at the 0.05 level (two-tailed).

6. Results and Analysis

6.1 Comparison of Mental Health Scores by Gender

Table 1 presents the descriptive statistics and z-test results for mental health scores of tribal adolescent boys and girls.

Group	N	Mean (MHB)	SD	z-value	Significance
Tribal Boys	50	13.00	2.64	0.87	Not Significant
Tribal Girls	50	12.58	2.80	0.87	Not Significant

Table 1: Comparison of Mental Health Battery (MHB) Scores by Gender (N = 100)

Table 1 shows that tribal boys (M = 13.00, SD = 2.64) and tribal girls (M = 12.58, SD = 2.80) obtained comparable mental health scores, with no statistically significant gender difference ($z = 0.87$, $p > 0.05$). This indicates that gender is not a significant differentiating factor in mental health among the tribal adolescent sample.

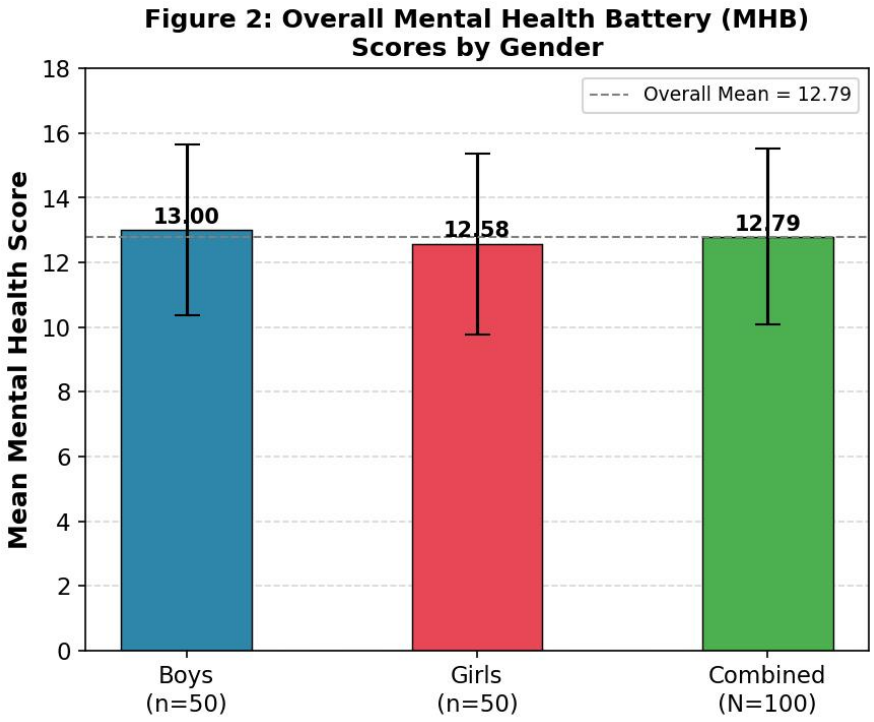

Figure 2: Overall Mental Health Battery (MHB) Mean Scores by Gender. Error bars represent ±1 SD.

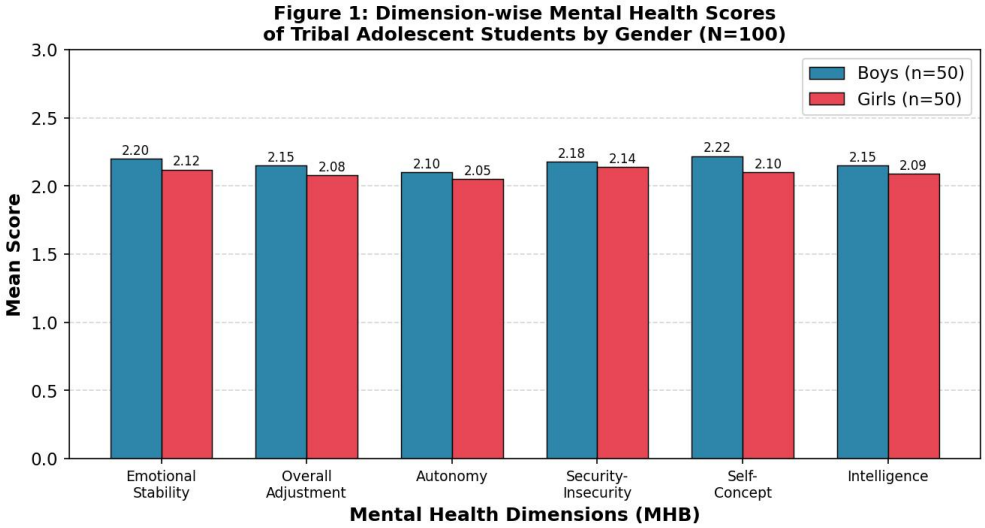

Figure 1: Dimension-wise Mental Health Scores of Tribal Adolescent Students by Gender (N = 100).

6.2 Comparison of Academic Achievement Scores by Gender

Table 2 presents the descriptive statistics and z-test results for academic achievement scores.

Group	N	Mean (Achievement)	SD	z-value	Significance
Tribal Boys	50	388.4	52.95	1.029	Not Significant
Tribal Girls	50	400.4	63.24	1.029	Not Significant

Table 2: Comparison of Academic Achievement Scores by Gender (N = 100)

Table 2 indicates that tribal girls (M = 400.4, SD = 63.24) performed marginally better than tribal boys (M = 388.4, SD = 52.95) in academic achievement; however, this difference was not statistically significant ($z = 1.029$, $p > 0.05$). These findings suggest that gender does not exert a significant influence on academic achievement within this tribal sample.

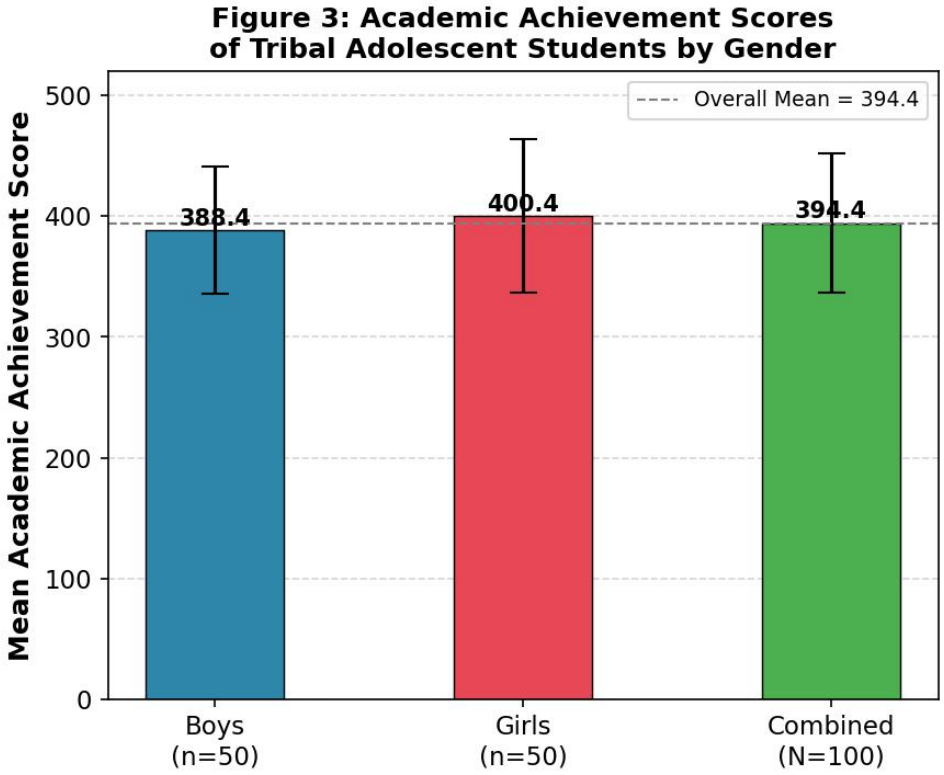

Figure 3: Academic Achievement Scores of Tribal Adolescent Students by Gender. Error bars represent ±1 SD.

6.3 Correlation between Mental Health and Academic Achievement

Table 3 presents the Pearson's correlation results between mental health and academic achievement scores.

Variables	r Value	Direction	Significance
Mental Health (MHB) × Academic Achievement	0.48	Positive	$p < 0.05$ (Significant)

Table 3: Pearson's Correlation between Mental Health and Academic Achievement (N = 100)

The Pearson's correlation coefficient ($r = 0.48$, $p < 0.05$) indicates a statistically significant, moderate positive relationship between mental health and academic achievement among tribal adolescent students. Students who demonstrated higher mental health scores tended to attain better academic performance. This finding leads to rejection of the null hypothesis and supports the proposition that mental health is a meaningful predictor of scholastic success.

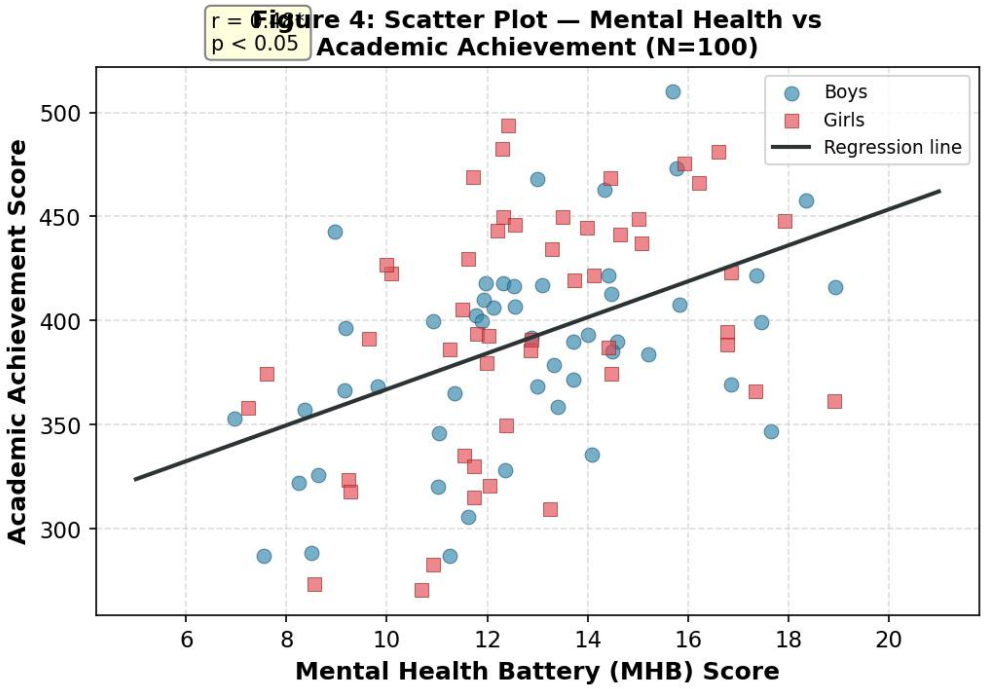

Figure 4: Scatter Plot showing Correlation between Mental Health (MHB) and Academic Achievement (r = 0.48, p < 0.05, N = 100).

7. Discussion

The findings of the present study reveal two central results: (i) no significant gender differences in mental health or academic achievement among tribal adolescent students, and (ii) a significant positive correlation between mental health and academic achievement.

The absence of gender differences in mental health ($z = 0.87$, $p > 0.05$) is noteworthy and may reflect the relatively egalitarian nature of tribal social structures, wherein boys and girls are exposed to similar community stressors, familial responsibilities, and educational environments. This finding contrasts with some urban-population studies that report higher rates of internalizing disorders among adolescent girls, suggesting that socio-cultural context mediates gender-based psychological outcomes.

Similarly, the absence of a significant gender gap in academic achievement ($z = 1.029$, $p > 0.05$) indicates that within this tribal sample, both boys and girls face comparable educational barriers and opportunities. The marginal advantage observed for girls ($M = 400.4$ vs. 388.4) may reflect girls' relatively stronger compliance-oriented learning strategies in structured school settings.

The significant positive correlation between mental health and academic achievement ($r = 0.48$, $p < 0.05$) is consistent with a broad body of international and national research (Thapliyal, 2022; O'Connor et al., 2019; Arya et al., 2022). Adolescents with better mental health tend to exhibit greater cognitive clarity, higher motivation, improved attention and memory, stronger resilience to academic stress, and more effective self-regulation — all of which directly facilitate learning and achievement. Conversely, poor mental health can lead to absenteeism, disengagement, difficulty concentrating, and ultimately reduced scholastic performance.

For tribal adolescents specifically, whose educational participation is already constrained by socio-economic disadvantage and cultural discontinuity, poor mental health represents an additional and often overlooked barrier to academic success. The present findings underscore the need to address mental health as an educational priority, not merely a welfare concern, within tribal schooling contexts.

8. Educational Implications

The findings of this study carry important implications for stakeholders in tribal education:

- School Counseling Services: Government schools in tribal regions must be equipped with trained school counselors and mental health professionals who can provide culturally sensitive psychological support.
- Teacher Sensitization: Teachers should be trained to recognize early signs of mental health difficulties and to create classroom environments that promote emotional safety, positive self-concept, and belonging.
- Culturally Responsive Pedagogy: Educational content and teaching methods should incorporate tribal cultural contexts, indigenous knowledge, and community values to reduce

cultural discontinuity and improve student engagement.

- Parental and Community Involvement: Programs engaging tribal parents and community leaders in school activities can strengthen students' sense of security and belonging — critical components of positive mental health.
- Policy Integration: Mental health outcomes should be explicitly incorporated as measurable indicators within tribal education quality frameworks under Samagra Shiksha and NEP 2020.
- Creative Engagement: Encouraging participation in arts, sports, and co-curricular activities can serve as low-cost, high-impact mental health protective strategies within school settings.

9. Conclusion

The present study provides empirical evidence that mental health and academic achievement are significantly and positively correlated among tribal adolescent students in Jhabua district, Madhya Pradesh. While no significant gender differences were observed in either variable, the significant positive correlation ($r = 0.48$, $p < 0.05$) highlights mental health as a critical determinant of scholastic success in this population.

Tribal adolescents possess inherent strengths including cultural resilience, community solidarity, and indigenous knowledge systems. However, systemic educational and psychological support structures remain grossly inadequate in tribal government schools. Addressing this deficit through targeted, culturally responsive mental health interventions is essential for enabling tribal adolescents to fulfill their academic potential and contribute meaningfully to national development.

Future research should employ larger, multi-district samples, longitudinal designs, and mixed-methods approaches to map causal pathways between mental health and academic performance and to evaluate the effectiveness of specific school-based mental health interventions among tribal adolescent populations.

Conflict of Interest: The authors declare no conflict of interest.

Funding: This research received no external funding.

Acknowledgements: The authors express sincere gratitude to the school principals, teachers, and student participants of Petalawad block, Jhabua district, for their cooperation in facilitating this research.

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