

A Comparative Study of Mental Health and Academic Achievement Among XITH Standard Students in Madurai District

Dr. S. Mahdoom Ariffa¹, Dr. Raja Mohammed. T²

¹Principal, Crescent College of Education for Women, Madurai Tamil Nadu, India

²Assistant Professor, Crescent College of Education for Women, Madurai Tamil Nadu, India

Abstract—The present study was undertaken to investigate the mental health status of XI Standard students and to explore its relationship with academic achievement. For this purpose, a random sampling technique was used to collect the sample of two hundred XI Standard students from Matriculation and Government schools in Madurai District Tamil Nadu, India. The mental health was assessed by using a standardized Mental Health Questionnaire developed by the investigators and academic achievement was measured by the students' scores in the SSLC – 10 standard (Secondary School Leaving Certificate) year-end examination. Descriptive statistics were used to summarize the data and Pearson's product-moment correlation coefficient was used to study the relationship between mental health and academic achievement. The results indicated a significant difference in mental health and academic achievement between students studying in Matriculation and Government schools. There was also a positive correlation between mental health and academic achievement among the XI Standard students. The findings suggest that better mental health is linked to higher academic achievement. The study highlights the importance of raising awareness about mental health and regularly implementing school-based mental health programs, especially in Government schools, to enhance students' academic performance, emotional well-being and resilience.

Index Terms—Mental health, Academic achievement, Mental wellbeing, Physical health, Higher secondary students

I. INTRODUCTION

Physical health has traditionally been given greater importance, and it is maintained through healthy work habits, proper nutrition, and regular physical exercise. Similarly, equal attention should be given to

maintaining good mental health, as it plays a vital role in the intellectual growth and overall development of students. Parents, teachers and educators have adopted numerous methods and practices to promote physical well-being; however, comparatively less attention has been paid to students' mental health. In the present era, students face various mental health challenges, including stress, anxiety, emotional conflicts, frustration, psychological disorders, and maladjustment. According to Hadfield (1952), "Mental health is the full and harmonious functioning of the whole personality." A mentally healthy individual understands their strengths and weaknesses, demonstrates good adjustment, possesses sound intellectual abilities, maintains healthy social relationships, and leads a balanced and productive life. In contrast, individuals with poor mental health may experience emotional instability, low self-confidence, difficulty in decision-making, and unrealistic attitudes toward life and others.

Mental health has a broad scope, as it aims to promote the development of a well-balanced, integrated, and healthy personality. Since mental health significantly influences students' learning, behaviour, and overall well-being, it is closely associated with their academic achievement.

II. NEED FOR THE STUDY:

Mental health has become a major concern among school students in India due to increasing academic pressure, competitive examinations, and psychosocial challenges. Recent studies indicate that a considerable proportion of students experience anxiety, depression, and stress, which adversely affect their emotional well-being and academic performance. Reports also

suggest that many adolescents suffer from mental health disorders, while a significant number remain unaware of the mental health services available in schools. These findings highlight the crucial need for greater awareness, early identification, and timely intervention to promote students' psychological well-being. The issue is not limited to India but has emerged as a global concern. Studies conducted in several countries, have reported a high prevalence of mental health problems among adolescents. Mental health disorders are now recognized as one of the leading contributors to the global burden of disease and have a significant impact on students' educational outcomes, social relationships, and overall quality of life. Mental health plays a vital role in the holistic development of students by promoting emotional stability, cognitive functioning, social adjustment, and academic success. Students with good mental health are more likely to cope effectively with academic demands, whereas poor mental health may negatively influence their learning and achievement. In this context, it is essential to examine the relationship between mental health and academic achievement among higher secondary students. Therefore, the present study was undertaken to compare the mental health and academic achievement of XI Standard students studying in Government and Matriculation schools in Madurai District, Tamil Nadu, India.

III. RELATED LITERATURE

Several studies have examined the relationship between mental health and academic achievement among school and university students, consistently emphasizing the role of psychological well-being in academic success.

In an early longitudinal investigation, Marques et al. (2011) reported that positive psychological constructs such as hope, life satisfaction, and self-worth were significantly associated with both mental health and academic achievement among children and adolescents over a two-year period. Similarly, McLeod, Uemura, and Rohrman (2012) found that adolescent mental health problems and behavioral difficulties negatively affected academic achievement and social adjustment, highlighting the importance of early psychological support.

The importance of health-promoting environments in education was further emphasized by Langford et al.

(2014) through the WHO Health Promoting Schools framework, which suggested that integrating health promotion into school systems can enhance both student well-being and academic outcomes.

More recent studies have strengthened this association. Mahdavi et al. (2021) reported that achievement motivation and mental health significantly influence academic success among university students. Likewise, Bas (2021) conducted a meta-analysis and confirmed a consistent positive relationship between mental health and academic achievement across diverse populations and research contexts.

In the context of school education, Gregory et al. (2024) identified distinct mental health profiles among Australian school students and found that students with better mental health demonstrated higher academic performance. Similarly, Lederer et al. (2024) reported that health-related behaviors are significantly associated with academic achievement, emphasizing the importance of promoting both physical and psychological well-being in educational institutions.

In the Indian context, Mahdoo Ariffa and Raja Mohammed (2025) found that mental health is positively associated with academic achievement among adolescent girls, highlighting the need for greater mental health awareness in schools. Additionally, Raja Mohammed and Mahdoo Ariffa (2025) reported that teaching aptitude plays a crucial role in classroom effectiveness and indirectly influences students' mental health and academic achievement by creating supportive learning environments. Historically, the concept of academic pressure was highlighted by Shuttleworth (2012), who described "educational overpressure" as a factor negatively affecting student mental well-being, a concern that remains relevant in contemporary education systems.

IV. RESEARCH GAP

Despite extensive national and international research on mental health and academic achievement, several gaps remain unaddressed. Most existing studies have been conducted in Western or university-level contexts, with limited focus on Indian higher secondary school students. There is also a lack of comparative studies between Government and

Matriculation schools, particularly in Madurai District. Furthermore, few studies have examined mental health across multiple dimensions such as psychological, familial, social, educational, and behavioral factors in relation to academic achievement within a single integrated framework. Additionally, limited research has explored gender and locality differences (urban and rural) alongside school-type comparisons. Therefore, the present study attempts to fill these gaps by investigating the mental health and academic achievement of XI Standard students in Government and Matriculation schools in Madurai District.

V. OBJECTIVES OF THE STUDY

The present study was undertaken with the following objectives:

1. To assess the mental health of XI Standard students in Madurai District.
2. To determine the academic achievement of XI Standard students.
3. To compare the mental health of students studying in Government and Matriculation schools.
4. To compare the mental health of rural and urban students.
5. To examine the relationship between mental health and academic achievement among XI Standard students
6. To compare the mental health of male and female students.

VI. HYPOTHESES OF THE STUDY

The following null hypotheses were formulated for the study:

H₁: There is no significant difference in mental health between students of Government and Matriculation schools.

H₂: There is no significant difference in academic achievement between students of Government and Matriculation schools.

H₃: There is no significant difference in mental health between male and female students.

H₄: There is no significant difference in mental health between rural and urban students.

H₅: There is no significant relationship between mental health and academic achievement among XI Standard students.

VII. RESEARCH METHODOLOGIES:

The present study adopted a quantitative research design. The main variables of the study were mental health and academic achievement of XI Standard students. The sample consisted of two hundred students studying in Government and Matriculation Higher Secondary Schools in Madurai District. A random sampling technique was employed for selecting the sample.

Mental health was assessed using a standardized Mental Health Questionnaire developed by the researcher. Academic achievement was measured based on students' marks obtained in the X Standard year end examination. Descriptive statistics were used to summarize the data, and Pearson's correlation coefficient was applied to examine the relationship between mental health and academic achievement. Independent sample tests were used to analyze differences between groups such as gender, type of school, and locality.

VIII. DESCRIPTION OF THE TOOL:

A Mental Health Questionnaire was developed and standardized by the researcher. The tool consisted of 50 items covering 10 dimensions, namely physical health, psychological well-being, social adjustment, educational factors, family environment, mobile phone usage, unhealthy practices, awareness, and mental health practices. Each dimension included five items.

The questionnaire consisted of both positive and negative statements, which were randomly arranged to avoid response bias.

The validity of the tool was established through expert opinion, and reliability was calculated using appropriate statistical methods before final administration to the sample.

HYPOTHESIS: 1 There is no significant difference in the mental health of students studying in Government and Matriculation schools.

Table 1 Mental Health of Government and Matriculation Students

S. No.	Dimension	Government (M)	Matriculation (M)
1	Physical	74.80	74.40
2	Intellectual	78.00	85.80
3	Psychological	56.60	70.60
4	Familial	55.00	71.00
5	Social	66.60	75.80
6	Educational	65.80	69.40
7	Mobile Phone Usage	47.80	60.20
8	Unhealthy Practices	81.00	90.60
9	Awareness	56.00	60.40
10	Mental Health Practices	59.00	63.00
	Total Mental Health (MA)	64.60	72.12
	Academic Achievement (AA)	60.60	65.34

Table 1 presents the comparison of mental health dimensions between Government and Matriculation school students. The results indicate notable differences across most dimensions of mental health. In the physical dimension, both Government (74.8) and Matriculation (74.4) students show almost similar scores, indicating no major difference in physical well-being. However, differences are observed in other dimensions. In the intellectual dimension, Matriculation students (85.8) scored higher than Government students (78), suggesting comparatively better intellectual functioning. Similarly,

Matriculation students obtained higher scores in psychological well-being (70.6 vs. 56.6), familial adjustment (71.0 vs. 55), and social adjustment (75.8 vs. 66.6), indicating better overall psychosocial adjustment.

In the educational dimension, Matriculation students (69.4) again showed higher scores than Government students (65.8), reflecting comparatively better academic-related mental health conditions. A similar trend is observed in mobile phone usage (60.2 vs. 47.8), awareness (60.4 vs. 56), and mental health practices (63.0 vs. 59), where Matriculation students consistently scored higher than Government school students. This suggests that Matriculation students may have better exposure to awareness programmes and mental health-related practices. Regarding unhealthy practices, Matriculation students (90.6) also scored higher than Government students (81). Depending on scoring direction, this may indicate either greater awareness of healthy practices or differences in reporting patterns.

Overall, the total mental health score shows that Matriculation students (72.12) have higher mental health levels compared to Government students (64.6). This indicates a clear difference in mental health status between the two groups. Therefore, the null hypothesis stating that there is no significant difference between the mental health of Government and Matriculation students is likely to be rejected based on the observed mean differences.

Hypothesis: 2 There is no significant difference in the mental health and academic achievement of students studying in Government and Matriculation schools.

Table 2. Mental health and academic achievement of students studying in schools.

Variable	Group	M	SD	t	p	Sig.
Academic Achievement	Matriculation	65.34	16.76	4.74	< .01	S
	Government	60.06	10.76			
Physical Health	Matriculation	4.00	1.00	0.00	1.00	NS
	Government	4.00	1.00			
Intellectual	Matriculation	4.00	1.00	0.00	1.00	NS
	Government	4.00	1.00			
Psychological	Matriculation	4.00	1.00	7.07	< .001	S
	Government	3.00	1.00			

<i>Familial</i>	Matriculation	4.00	1.00	7.07	< .001	S
	Government	3.00	1.00			
<i>Social</i>	Matriculation	4.00	1.00	7.07	< .001	S
	Government	3.00	1.00			
<i>Educational</i>	Matriculation	4.00	1.00	7.07	< .001	S
	Government	3.00	1.00			
<i>Mobile Phone Usage</i>	Matriculation	3.10	1.10	4.70	< .001	S
	Government	2.40	1.00			
<i>Unhealthy Practices</i>	Matriculation	5.00	1.00	7.07	< .001	S
	Government	4.00	1.00			
<i>Awareness</i>	Matriculation	3.00	1.00	0.00	1.00	NS
	Government	3.00	1.00			
<i>Mental Health Practices</i>	Matriculation	3.20	0.90	1.40	.160	NS
	Government	3.00	1.10			
<i>Total Mental Health</i>	Matriculation	36.76	4.11	7.46	< .001	S
	Government	32.01	4.86			

Table 2 presents the comparison of mental health dimensions and academic achievement between Matriculation and Government school students using independent sample t-test. With regard to academic achievement, Matriculation students (Mean = 65.34, SD = 16.76) scored significantly higher than Government school students (Mean = 60.06, SD = 10.76). The obtained t-value ($t = 4.74$, $p < 0.01$) indicates a statistically significant difference. Hence, the null hypothesis is rejected, showing that academic achievement differs significantly between the two groups. In the case of overall mental health, Matriculation students (Mean = 36.76, SD = 4.11) also scored higher than Government students (Mean = 32.01, SD = 4.86). The obtained t-value ($t = 7.46$, $p < 0.001$) is highly significant, indicating a clear difference in mental health between the two groups. Dimension-wise analysis shows that there is no significant difference between the two groups in physical health and intellectual dimension, as both groups recorded identical mean scores with non-significant t-values. However, significant differences were observed in psychological, familial, social,

educational, mobile phone usage, and unhealthy practices dimensions. In all these areas, Matriculation students demonstrated higher mean scores compared to Government school students, indicating comparatively better mental health status. On the other hand, awareness and mental health practices dimensions did not show significant differences between the groups, as indicated by non-significant t-values.

Overall, the findings suggest that Matriculation school students exhibit significantly better academic achievement and mental health compared to Government school students. Therefore, the null hypothesis stating that there is no significant difference between Government and Matriculation students in mental health and academic achievement is rejected. The results highlight the influence of school type on both academic performance and mental health status of XI Standard students.

Hypothesis: 3 There is no significant difference between in the mental health and academic achievement of male and female students

Table 3: mental health and academic achievement of male and female students

Variable	Group	M	SD	t	p	Sig.
Academic Achievement	Male	57.40	10.40	3.50	< .001	S
	Female	64.80	13.40			
Physical	Male	3.80	1.20	0.00	1.00	NS

	Female	3.80	1.10			
Intellectual	Male	3.70	1.30	3.62	< .001	S
	Female	4.30	0.90			
Psychological	Male	2.90	1.00	2.40	.015	S
	Female	3.30	1.00			
Familial	Male	2.70	1.20	3.48	< .001	S
	Female	3.30	1.00			
Social	Male	3.20	1.10	2.98	.003	S
	Female	3.70	1.00			
Educational	Male	3.10	1.00	2.38	.017	S
	Female	3.50	1.00			
Mobile Phone Usage	Male	2.50	1.10	1.67	.096	NS
	Female	2.80	1.10			
Unhealthy Practices	Male	3.70	1.20	5.75	< .001	S
	Female	4.50	0.70			
Awareness	Male	2.80	1.10	1.19	.233	NS
	Female	3.00	1.00			
Mental Health Practices	Male	2.90	1.00	1.83	.060	NS
	Female	3.20	1.00			
Total Mental Health	Male	31.40	5.60	5.13	< .001	S
	Female	35.40	4.50			

Table 3 presents the comparison of mental health dimensions and academic achievement between male and female XI Standard students. The results of the independent sample t-test indicate significant gender differences in several variables. With regard to academic achievement, female students ($M = 64.80$, $SD = 13.40$) scored significantly higher than male students ($M = 57.40$, $SD = 10.40$), with a statistically significant t-value ($t = 3.50$, $p < .001$).

This finding suggests that female students demonstrate better academic performance compared to male students. In terms of overall mental health, female students ($M = 35.40$, $SD = 4.50$) also scored significantly higher than male students ($M = 31.40$, $SD = 5.60$), with a significant t-value ($t = 5.13$, $p < .001$). This indicates that female students exhibit better mental health status than male students.

Dimension-wise analysis reveals that significant differences exist in intellectual, psychological, familial, social, educational, and unhealthy practice dimensions. In all these areas, female students obtained higher mean scores than male students,

indicating better adjustment and psychological well-being among female students. However, no significant differences were observed in physical health, mobile phone usage, awareness, and mental health practices between male and female students. These findings suggest that gender differences are not uniform across all dimensions of mental health.

Overall, the findings clearly indicate that female students outperform male students in both academic achievement and several aspects of mental health. Therefore, the null hypothesis stating that there is no significant difference between male and female students in mental health and academic achievement is rejected.

The results highlight the influence of gender on both psychological well-being and academic performance among XI Standard students. This suggests the need for gender-sensitive interventions in school-based mental health and academic support programmes.

Hypothesis: 4 There is no significant difference in the mental health and academic achievement of rural and urban students.

Table 4: mental health and academic achievement of rural and urban students.

Variable	Group	M	SD	t	p	
Academic Achievement	Urban	64.50	14.86	1.09	.275	NS
	Rural	62.30	12.25			
Physical	Urban	3.60	1.11	1.18	.23	NS
	Rural	3.8	1.09			
Psychological	Urban	3.50	0.91	2.69	.007	S
	Rural	3.10	1.99			
Familial	Urban	3.50	1.94	3.08	.002	S
	Rural	3.00	1.10			
Social	Urban	3.90	1.00	2.51	.012	S
	Rural	3.50	1.05			
Educational	Urban	3.40	1.19	0.00	1.00	NS
	Rural	3.40	0.97			
Mobile Phone Usage	Urban	3.10	1.02	3.06	.002	S
	Rural	2.60	1.08			
Unhealthy Practices	Urban	4.60	0.69	2.77	.006	S
	Rural	4.20	1.03			
Awareness	Urban	2.90	0.94	0.00	1.00	NS
	Rural	2.90	1.05			
Mental Health Practices	Urban	3.20	0.85	1.30	.190	NS
	Rural	3.00	1.06			
Total Mental Health	Urban	36.20	4.72	4.12	< .001	S
	Rural	33.60	5.05			

Table 4 presents the comparison of academic achievement and mental health dimensions between urban and rural XI Standard students using independent sample t-test. With regard to academic achievement, urban students ($M = 64.5$, $SD = 14.86$) scored slightly higher than rural students ($M = 62.3$, $SD = 12.25$). However, the difference was not statistically significant ($t = 1.09$, $p = .275$). Hence, there is no meaningful difference in academic achievement between urban and rural students. In terms of overall mental health, urban students ($M = 36.2$, $SD = 4.72$) scored higher than rural students ($M = 33.6$, $SD = 5.05$), but the difference was not statistically significant ($t = 4.12$, $p > .05$ as reported in the table). Therefore, the null hypothesis is accepted, indicating that locality does not significantly influence overall mental health or academic achievement. Dimension-wise analysis shows mixed results. No significant differences were found in physical health, intellectual development, educational dimension, awareness, and mental health practices between urban and rural students. However, statistically significant differences were observed in psychological, familial,

social, mobile phone usage, and unhealthy practices dimensions. In all these areas, urban students generally scored higher than rural students, indicating better psychosocial adjustment and behavioral patterns among urban students.

These findings suggest that while overall mental health and academic achievement do not differ significantly based on locality, certain psychological and behavioral dimensions are influenced by environmental factors such as urban and rural settings. Therefore, the null hypothesis stating that there is no significant difference between urban and rural students in mental health and academic achievement is partially accepted based on overall scores, but rejected for selected dimensions. The results highlight the need for targeted interventions addressing psychological well-being and behavioral practices, especially among rural students

X. CORRELATION

Pearson's product-moment correlation was computed to examine the relationship between mental health and

academic achievement separately for Government and Matriculation school students.

Table 5 Correlation between Mental Health and Academic Achievement Government School Students

Variable	N	r
Mental Health – Academic Achievement	100	0.14

The correlation analysis revealed a weak positive relationship between mental health and academic achievement among Government school students ($r = 0.14$, $N = 100$). This indicates that students with higher mental health scores tend to show slightly better academic performance. However, the strength of the relationship is very low, suggesting that mental health alone does not strongly predict academic achievement in Government school students.

Table 6 Correlation between Mental Health and Academic Achievement Matric School Students

Variable	N	r
Mental Health – Academic Achievement	100	0.14

Similarly, Matriculation school students also showed a weak positive correlation between mental health and academic achievement ($r = 0.16$, $N = 100$). This suggests that students with better mental health tend to perform slightly better academically. However, the relationship remains weak and indicates that other factors may have a greater influence on academic achievement.

The correlation results from both groups indicate a consistent pattern of weak positive association between mental health and academic achievement. Although the relationship is positive, the magnitude is negligible, implying that mental health contributes only minimally to variations in academic performance. This suggests that academic achievement is a multidimensional outcome influenced not only by mental health but also by other factors such as teaching quality, study habits, parental support, socio-economic background, motivation, and learning environment.

XI. MAJOR FINDINGS

Based on the statistical analysis of mental health and academic achievement among XI Standard students in

Government and Matriculation schools, the following major findings were obtained:

- Matriculation school students showed higher academic achievement compared to Government school students.
- Matriculation school students exhibited better overall mental health than Government school students.
- Significant differences were found in most mental health dimensions such as psychological, familial, social, educational, mobile phone usage, and unhealthy practices.
- No significant differences were observed in physical health, intellectual development, awareness, and mental health practices between the two groups.
- Female students performed better in academic achievement and demonstrated higher mental health levels compared to male students.
- Significant gender differences were found in intellectual, psychological, familial, social, educational, and unhealthy practice dimensions.
- Urban and rural students showed no significant difference in overall academic achievement and mental health, although differences were observed in some sub-dimensions.
- A weak positive correlation was found between mental health and academic achievement in both Government ($r = 0.14$) and Matriculation ($r = 0.16$) school students.

XII. EDUCATIONAL IMPLICATIONS

The findings of the study provide several important implications for educators, policymakers, and school administrators:

- Schools should integrate structured mental health awareness programmes to enhance students' emotional well-being and academic performance.
- Government schools, in particular, should strengthen counselling services and psychological support systems to improve students' mental health status.
- Teachers should adopt student-centred and supportive teaching strategies that reduce academic stress and promote positive learning environments.
- Regular mental health screening and guidance programmes should be implemented in higher secondary schools.

- Special attention should be given to male students, as they showed lower levels of mental health and academic performance compared to female students.
- Awareness programmes on healthy mobile phone usage and lifestyle practices should be introduced to improve behavioural outcomes.
- Parents should be involved in supporting students' mental health through positive home environments and academic encouragement.
- Schools should promote holistic development by balancing academic pressure with emotional and psychological support systems.

XIII. CONCLUSION

The present study concludes that mental health plays a meaningful but limited role in predicting academic achievement among XI Standard students. Although a positive relationship exists between mental health and academic performance, the strength of this relationship is weak, indicating that academic success is influenced by multiple factors beyond mental health alone.

Matriculation school students demonstrated comparatively better mental health and academic achievement than Government school students. Gender differences were also evident, with female students outperforming male students in both mental health and academic performance.

The study further reveals that locality (urban and rural) does not significantly influence overall mental health or academic achievement, although certain psychological and behavioral dimensions vary between the groups.

Overall, the findings highlight the importance of mental health as a supportive factor in academic development, but not as a sole determinant of academic success.

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