



# IMPACT OF RAJAYOGA MEDITATION ON THE MENTAL HEALTH OF HIGH SCHOOL STUDENTS: A MIXED-METHOD STUDY

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**Abstract :** Adolescence is a critical developmental stage characterized by rapid psychological, emotional, and social changes. High school students often experience academic pressure, emotional instability, and stress, which negatively affect their mental health and academic performance. Rajayoga meditation, a psycho-spiritual practice emphasizing self-awareness, positive cognition, and emotional regulation, has emerged as a promising intervention for improving mental well-being. The present study investigates the impact of Rajayoga meditation on the mental health of high school students using a mixed-methods research design. Quantitative data were collected using standardized psychological scales, while qualitative data were obtained through interviews and focus group discussions. Statistical analysis revealed significant improvements in stress reduction, anxiety control, emotional stability, and self-esteem among students practicing Rajayoga meditation compared to non-practicing students. Qualitative findings supported these results by highlighting positive emotional, cognitive, and behavioral changes. The study concludes that Rajayoga meditation is an effective holistic intervention for enhancing adolescent mental health and recommends its integration into school-based mental health programs.

**IndexTerms** - Rajayoga Meditation, Mental Health, High School Students, Mixed Methods, Stress, Anxiety, Emotional Stability, Self-Esteem.

## I. INTRODUCTION

Mental health has become one of the most significant concerns in contemporary education, particularly among adolescents. High school students face multiple stressors such as academic competition, parental expectations, peer relationships, and technological distractions. These factors often lead to psychological problems including anxiety, depression, emotional instability, and reduced self-esteem. According to global and national health organizations, mental health disorders among adolescents are increasing at an alarming rate, highlighting the need for preventive and promotive interventions within educational settings.

Meditation practices have been widely recognized as effective tools for enhancing psychological well-being. Among various meditation traditions, Rajayoga meditation offers a unique approach by integrating

cognitive, emotional, and spiritual dimensions of human life. Unlike concentration-based meditation, Rajayoga emphasizes self-awareness, positive thinking, and value-based living, making it particularly suitable for adolescents in educational contexts.

The present study aims to systematically examine the effect of Rajayoga meditation on the mental health of high school students using a mixed-methods approach. By combining quantitative and qualitative data, the study seeks to provide a comprehensive understanding of the psychological and experiential impact of Rajayoga meditation.

## **2. Review of Related Literature**

### **2.1 Mental Health in Adolescence**

Adolescence is a transitional period marked by emotional vulnerability and identity formation. Previous studies indicate that stress, anxiety, and emotional disturbances are prevalent among high school students. Research in developmental psychology suggests that early intervention is crucial for preventing long-term mental health problems.

### **2.2 Meditation and Psychological Well-Being**

A growing body of research demonstrates that meditation practices contribute to stress reduction, emotional regulation, and improved cognitive functioning. Neuropsychological studies have shown that meditation influences brain regions associated with attention, emotion regulation, and self-awareness.

### **2.3 Rajayoga Meditation and Mental Health**

Rajayoga meditation focuses on self-awareness and positive cognition. Empirical studies have reported positive outcomes of Rajayoga meditation, including reduced anxiety, improved emotional balance, enhanced self-esteem, and better interpersonal relationships. However, limited research has been conducted on adolescents using rigorous mixed-methods designs.

### **2.4 Research Gap**

The review of literature reveals three major gaps: (1) limited experimental studies on Rajayoga meditation among adolescents, (2) lack of mixed-methods research integrating quantitative and qualitative findings, and (3) insufficient theoretical models explaining the mechanisms through which Rajayoga meditation influences mental health. The present study addresses these gaps.

## **3. Objectives of the Study**

1. To assess the mental health status of high school students.
2. To examine the effect of Rajayoga meditation on stress, anxiety, emotional stability, and self-esteem.
3. To compare the mental health outcomes of students practicing Rajayoga meditation with those who do not practice meditation.
4. To explore students' subjective experiences of Rajayoga meditation.
5. To integrate quantitative and qualitative findings to develop a holistic model of mental health improvement.

#### 4. Hypotheses

##### 4.1 Quantitative Hypotheses

H1: There is a significant difference in overall mental health between students practicing Rajayoga meditation and those not practicing meditation.

H2: Rajayoga meditation significantly reduces stress among high school students.

H3: Rajayoga meditation significantly reduces anxiety among high school students.

H4: Rajayoga meditation significantly improves emotional stability among high school students.

H5: Rajayoga meditation significantly enhances self-esteem among high school students.

##### 4.2 Qualitative Research Questions

1. How do students perceive the impact of Rajayoga meditation on their thoughts and emotions?
2. What changes do students experience in their academic and social lives after practicing Rajayoga meditation?
3. How do teachers and parents perceive behavioral and emotional changes in students practicing Rajayoga meditation?

#### 5. Research Methodology

##### 5.1 Research Approach

The study adopted a mixed-methods research approach integrating quantitative and qualitative methods. An explanatory sequential design was used, in which quantitative data were collected and analyzed first, followed by qualitative data to explain the quantitative results.

##### 5.2 Research Design

A quasi-experimental pre-test and post-test control group design was employed. Two groups were formed: an experimental group practicing Rajayoga meditation and a control group not practicing meditation.

##### 5.3 Population and Sample

The population consisted of high school students from selected government and private schools in Andhra Pradesh, India.

##### Sample Size

A total of 200 students participated in the study: - Experimental Group: 100 students - Control Group: 100 students

For qualitative analysis, 20 students, 5 teachers, and 5 parents were selected using purposive sampling.

##### 5.4 Sampling Technique

A multi-stage sampling technique was employed, including stratified random sampling for school selection and simple random sampling for student selection.

##### 5.5 Variables

- Independent Variable: Rajayoga Meditation Practice
- Dependent Variables: Stress, Anxiety, Emotional Stability, Self-Esteem, Overall Mental Health
- Control Variables: Age, Gender, Socio-economic Status, Type of School

### 5.6 Intervention Programme

A structured Rajayoga meditation programme was implemented for the experimental group for eight weeks. The programme included daily meditation sessions, guided reflections, and value-based discussions.

### 5.7 Data Sources

#### Primary Data Sources

- Standardized psychological scales
- Interviews and focus group discussions
- Observations

#### Secondary Data Sources

- Academic journals, books, and research reports
- Previous studies on meditation and mental health

### 5.8 Tools and Instruments

#### Quantitative Tools

1. Mental Health Inventory (MHI)
2. Perceived Stress Scale (PSS)
3. Anxiety Scale
4. Rosenberg Self-Esteem Scale

#### Qualitative Tools

1. Semi-structured interview schedule
2. Focus group discussion guide
3. Observation checklist

### 5.9 Validity and Reliability

Content validity was ensured through expert review. Reliability of the instruments was established using Cronbach's alpha. Triangulation was used to enhance the credibility of qualitative findings.

### 5.10 Procedure of Data Collection

1. Selection of schools and participants
2. Administration of pre-test to both groups
3. Implementation of Rajayoga meditation programme
4. Administration of post-test
5. Conducting interviews and focus group discussions
6. Data coding and analysis

### 5.11 Data Analysis Techniques

#### Quantitative Analysis

Quantitative data were analyzed using descriptive statistics (mean and standard deviation) and inferential techniques such as independent samples t-test, paired samples t-test, and one-way ANOVA. Effect size was calculated using Cohen's d.

## Qualitative Analysis

Qualitative data were analyzed using thematic analysis, involving coding, categorization, and interpretation of emerging themes.

## 6. Results and Findings

### 6.1 Quantitative Results: Mean and Standard Deviation Tables

To examine the effect of Rajayoga meditation on mental health variables, descriptive statistics were computed for both experimental and control groups at pre-test and post-test stages. The following tables present the mean (M) and standard deviation (SD) values for stress, anxiety, emotional stability, self-esteem, and overall mental health.

**Table 1: Mean and Standard Deviation of Mental Health Variables (Pre-Test)**

Variable	Group	N	Mean	Standard	Deviation
			(M)	(SD)	
Stress	Experimental	100	32.45	5.62	
	Control	100	31.98	5.47	
Anxiety	Experimental	100	29.76	4.95	
	Control	100	29.34	4.88	
Emotional Stability	Experimental	100	24.52	4.21	
	Control	100	24.67	4.19	
Self-Esteem	Experimental	100	21.34	3.87	
	Control	100	21.21	3.79	
Overall Health	Mental	Experimental	100	108.07	12.45
Overall Health	Mental	Control	100	107.20	12.31

**Table 2: Mean and Standard Deviation of Mental Health Variables (Post-Test)**

Variable	Group	N	Mean (M)	Standard Deviation (SD)
Stress	Experimental	100	21.38	4.26
Stress	Control	100	30.87	5.32
Anxiety	Experimental	100	19.92	3.74
Anxiety	Control	100	28.96	4.81
Emotional Stability	Experimental	100	32.68	4.56
Emotional Stability	Control	100	25.12	4.22
Self-Esteem	Experimental	100	28.47	4.01
Self-Esteem	Control	100	22.05	3.84
Overall Mental Health	Experimental	100	135.45	13.72
Overall Mental Health	Control	100	108.94	12.57

## 6.2 Output of Mean and Standard Deviation Analysis

The descriptive statistical analysis generated the following outputs for mean and standard deviation across experimental and control groups.

**Summary Output (Pre-Test):** - Stress: Experimental ( $M = 32.45$ ,  $SD = 5.62$ ), Control ( $M = 31.98$ ,  $SD = 5.47$ ) - Anxiety: Experimental ( $M = 29.76$ ,  $SD = 4.95$ ), Control ( $M = 29.34$ ,  $SD = 4.88$ ) - Emotional Stability: Experimental ( $M = 24.52$ ,  $SD = 4.21$ ), Control ( $M = 24.67$ ,  $SD = 4.19$ ) - Self-Esteem: Experimental ( $M = 21.34$ ,  $SD = 3.87$ ), Control ( $M = 21.21$ ,  $SD = 3.79$ ) - Overall Mental Health: Experimental ( $M = 108.07$ ,  $SD = 12.45$ ), Control ( $M = 107.20$ ,  $SD = 12.31$ )

These results indicate that both groups were statistically comparable before the intervention.

**Summary Output (Post-Test):** - Stress: Experimental ( $M = 21.38$ ,  $SD = 4.26$ ), Control ( $M = 30.87$ ,  $SD = 5.32$ ) - Anxiety: Experimental ( $M = 19.92$ ,  $SD = 3.74$ ), Control ( $M = 28.96$ ,  $SD = 4.81$ ) - Emotional Stability: Experimental ( $M = 32.68$ ,  $SD = 4.56$ ), Control ( $M = 25.12$ ,  $SD = 4.22$ ) - Self-Esteem: Experimental

( $M = 28.47$ ,  $SD = 4.01$ ), Control ( $M = 22.05$ ,  $SD = 3.84$ ) - Overall Mental Health: Experimental ( $M = 135.45$ ,  $SD = 13.72$ ), Control ( $M = 108.94$ ,  $SD = 12.57$ )

The post-test results demonstrate a marked improvement in the experimental group, reflected by lower mean scores in stress and anxiety and higher mean scores in emotional stability, self-esteem, and overall mental health. The reduced standard deviation values in the experimental group indicate greater consistency in psychological improvement among students practicing Rajayoga meditation.

The pre-test results indicate that there were no significant differences between the experimental and control groups before the intervention, suggesting initial equivalence of the groups. However, the post-test results demonstrate substantial improvement in the experimental group across all mental health variables, while the control group showed minimal change. The reduction in stress and anxiety scores and the increase in emotional stability, self-esteem, and overall mental health scores among the experimental group suggest a positive impact of Rajayoga meditation.

### **6.1 Descriptive Statistics**

Students practicing Rajayoga meditation showed higher mean scores in positive mental health indicators and lower scores in stress and anxiety compared to the control group.

### **6.2 Inferential Statistics**

Statistical analysis revealed significant differences between experimental and control groups across all mental health variables ( $p < 0.05$ ). Pre-test and post-test comparisons also indicated significant improvement in the experimental group after the intervention.

### **6.3 Qualitative Findings**

Three major themes emerged from qualitative analysis: emotional transformation, cognitive and academic improvement, and social and behavioral changes. Students reported increased calmness, improved concentration, and enhanced self-confidence.

### **6.4 Integration of Findings**

The integration of quantitative and qualitative results confirmed that Rajayoga meditation positively influences mental health through cognitive, emotional, and behavioral mechanisms.

## **7. Discussion**

The findings of the study are consistent with previous research on meditation and mental health. Rajayoga meditation was found to significantly enhance emotional regulation, reduce stress and anxiety, and improve self-esteem among high school students. From a theoretical perspective, Rajayoga meditation can be understood as a form of cognitive-behavioral and spiritual intervention that facilitates positive cognitive restructuring and emotional resilience.

## **8. Educational and Psychological Implications**

1. Integration of meditation programs into school curricula.
2. Training teachers in basic meditation techniques.
3. Development of school-based mental health promotion strategies.
4. Policy-level recognition of meditation as a preventive mental health intervention.

## 9. Limitations of the Study

1. The study was limited to a specific geographical region.
2. The duration of the intervention was relatively short.
3. Self-report measures may be subject to response bias.
4. Longitudinal effects were not examined.

## 10. Suggestions for Future Research

1. Long-term longitudinal studies on Rajayoga meditation.
2. Cross-cultural comparative studies.
3. Neuropsychological investigations using brain imaging techniques.
4. Large-scale experimental studies in diverse educational settings.

## 11. Conclusion

The present study provides empirical evidence that Rajayoga meditation significantly improves the mental health of high school students. By integrating quantitative and qualitative findings, the study demonstrates that Rajayoga meditation is an effective psycho-spiritual intervention for promoting emotional stability, reducing stress and anxiety, and enhancing self-esteem among adolescents. The results highlight the potential of Rajayoga meditation as a sustainable and culturally relevant approach to adolescent mental health promotion within educational institutions.

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