

Yoga for Academic Excellence: A Pre–Post Study on Focus, Stress, and Well-Being among Higher Secondary Students Preparing for Entrance Examinations

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Abstract: *In today's highly competitive academic environment, students preparing for entrance examinations often experience increased stress, reduced attention span, and emotional instability. Yoga, as a holistic mind–body practice, has been widely recognized for its positive effects on mental and physical health. This study investigates the impact of a structured yoga intervention on concentration, stress levels, and emotional well-being among higher secondary students. A pre–post experimental design was adopted, involving daily sessions of asanas, pranayama, and meditation. Data were collected using a five-point Likert scale before and after the intervention. The findings revealed a notable increase in mean scores from 35.85 (pre-test) to 46.27 (post-test), indicating significant improvements in focus, emotional balance, and stress management. The study concludes that yoga is an effective, low-cost, and non-pharmacological strategy for enhancing students' academic readiness and psychological well-being.*

Keywords: Yoga, Concentration, Stress, Well-being, Entrance Examinations, Higher Secondary Students

I. INTRODUCTION

In recent years, educational environments across the globe have become increasingly competitive, placing significant academic demands on students. Higher secondary students, particularly those preparing for entrance examinations, experience heightened levels of pressure due to expectations of academic excellence and future career aspirations. This phase of life is critical, as it coincides with both cognitive development and emotional maturation[1]. Consequently, many students encounter challenges such as reduced concentration, heightened stress, emotional instability, and physical exhaustion, all of which can negatively affect their academic performance and overall well-being.

Sustaining attention, maintaining emotional balance, and managing stress are therefore essential components of effective learning and academic success[2]. In this context, there is a growing need for holistic approaches that support not only intellectual growth but also mental and physical health.

Yoga, a traditional discipline originating in India, offers an integrated approach that combines physical postures (asanas), regulated breathing techniques (pranayama), and meditation practices. Over time, yoga has gained widespread global acceptance[3] as a beneficial practice for enhancing psychological resilience and physical fitness. Empirical studies suggest that regular engagement in yoga can improve cognitive functioning, increase oxygen supply to the brain, regulate emotional responses, and reduce stress levels. Such benefits make yoga a promising intervention for students facing academic pressure[2].

The present study seeks to examine the impact of a structured yoga intervention on higher secondary students preparing for entrance examinations[4]. Using a pre–post study design, the research evaluates changes in key parameters such as



concentration, stress levels, and emotional well-being before and after the implementation of yoga practices. The findings aim to contribute to the growing body of evidence supporting the role of yoga in promoting academic excellence and holistic student development.

II. METHODOLOGY

The study employed a pre–post experimental research design to examine the effects of a structured yoga intervention on selected academic and psychological parameters. A sample of approximately 25 higher secondary students aged 16–18 years (mean age = 16.96 years) was selected. This age group is particularly vulnerable to academic stress due to entrance examination preparation[5].

Data were collected using a self-developed questionnaire based on a five-point Likert scale, designed to measure students' perceptions across multiple dimensions[6]. The questionnaire was administered twice: before the intervention (pre-test) and after completion (post-test).

Four major domains were assessed:

- **Stress:** irritation, academic pressure, sleep disturbances
- **Concentration:** sustained study, distraction control, time management
- **Emotional Well-being:** confidence, positivity, coping with failure
- **Health:** sleep quality, headaches, energy levels, behavioral control

The intervention consisted of daily yoga sessions including asanas, pranayama, and meditation, designed to improve both physical relaxation and mental focus.

Data analysis was conducted using descriptive statistics, primarily comparing mean scores between pre- and post-test phases to evaluate the effectiveness of the intervention.

III. RESULT AND DISCUSSION

The analysis revealed a substantial improvement in the overall performance of students following the yoga intervention. The mean score increased from 35.85 in the pre-intervention phase to 46.27 in the post-intervention phase, reflecting an improvement of 10.42 points. This significant rise indicates a positive shift in students' overall well-being, including enhanced concentration, reduced stress levels, improved emotional stability, and better physical health. The findings strongly suggest that yoga contributes to improved academic readiness.

1. Stress Reduction:

The data clearly shows a strong and consistent improvement across all four stress-related components after the intervention (Post) when compared to the baseline (Pre). Overall Stress levels show the most noticeable reduction. The average score increases from a lower Pre value to a significantly higher Post value, indicating that students experienced better stress regulation over time. This suggests the intervention or program helped students manage daily stress more effectively.

Irritability also shows a clear improvement. In the Pre phase, irritability scores are relatively lower, reflecting emotional reactivity and frustration. In the Post phase, the average irritability score is higher, meaning students became calmer and less emotionally volatile. This improvement aligns well with the reduction in overall stress.

Sleep-related stress demonstrates consistent positive change. Pre data indicates disturbed or inadequate sleep patterns contributing to stress, whereas Post data shows improvement, suggesting better sleep quality or reduced sleep pressure after the intervention. Since sleep is closely linked to stress coping ability, this change is particularly meaningful.

Similarly, Pressure (academic / social pressure) decreases notably from Pre to Post. Lower Pre scores indicate higher pressure perception, while the improved Post scores suggest students felt more capable of handling expectations, workload, or external demands. The bar graph below visually compares the average scores of Stress, Irritability, Sleep, and Pressure for Pre and Post phases using only the Stress sheet data.



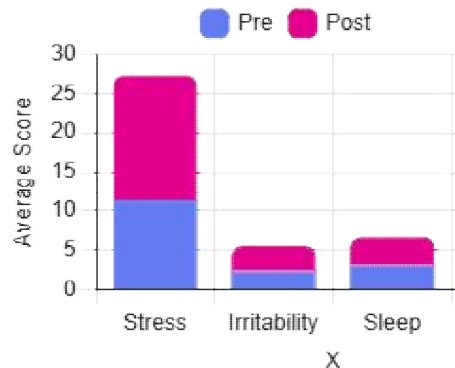


Figure 1. Average Stress Components (Pre vs Post)

2. Concentration:

Data reveals a clear and meaningful improvement in students' concentration abilities after the intervention, reflected consistently across all three components: Continuous Study, Distraction control, and Time management. The most notable improvement is seen in Continuous Study. During the Pre phase, average scores indicate that students struggled to sustain focus for longer periods. In the Post phase, the increased average score shows that students were able to maintain attention for longer durations without breaks, suggesting improved mental stamina and study discipline.

A second important insight emerges from Distraction scores. Lower Pre averages reflect higher susceptibility to internal and external distractions during study time. The higher Post averages indicate that students became less easily distracted, demonstrating improved self-regulation and attentional control. This improvement directly supports better learning outcomes.

Time management also shows a clear positive shift. Pre scores suggest difficulty in efficiently utilizing study time, whereas Post scores indicate better pacing, planning, and use of available time. This suggests that students not only focused better but also learned how to organize their study efforts more effectively.

The balanced improvement across all three components indicates that the program/intervention had a comprehensive effect on concentration, not just increasing focus but also reducing distractions and improving efficient use of time. These combined gains strongly support enhanced academic readiness and learning efficiency.

The bar graph below presents a single consolidated comparison of average scores for Continuous Study, Distraction, and Time between the Pre and Post phases, based strictly on data from the Concentration sheet.

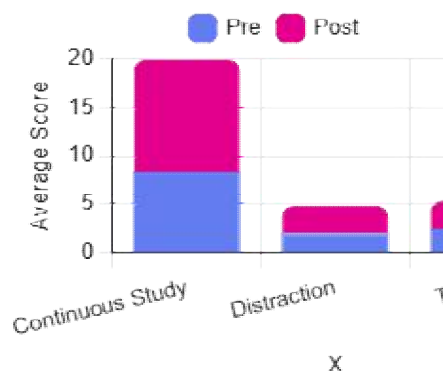


Figure 2. Average Concentration Components (Pre and Post)



3. Emotionality:

Data shows a clear and statistically meaningful improvement in students' emotional development after the intervention, particularly in the areas of Confidence, Positivity, and Failure Handling.

The strongest and most consistent improvement is observed in Confidence. During the Pre phase, average confidence scores suggest moderate self-belief and hesitation in self-expression. In the Post phase, the average confidence level rises noticeably, indicating that students became more self-assured, willing to participate, and emotionally secure. This improvement suggests the intervention had a strong impact on self-concept and emotional stability.

Positivity also shows a clear upward shift from Pre to Post. Lower Pre scores reflect a tendency toward negative emotional responses or reduced optimism, while higher Post scores indicate that students developed a more positive outlook, better emotional balance, and increased optimism in academic and social situations. This change is essential for long-term emotional well-being.

A particularly important insight comes from Failure Handling. Pre-intervention scores indicate difficulty in coping with mistakes, setbacks, or academic failures. Post-intervention averages are substantially higher, demonstrating that students became more resilient, showed improved emotional control, and were better able to accept failure as part of the learning process instead of reacting with discouragement or anxiety.

Overall, the simultaneous improvement across Confidence, Positivity, and Failure Handling suggests a holistic strengthening of emotional intelligence. Students not only feel better about themselves but also respond more constructively to challenges, which strongly supports both academic success and mental well-being. The bar graph below presents a single combined comparison of average scores for Confidence, Positivity, and Failure Handling between the Pre and Post phases, strictly based on the Emotionality sheet data.

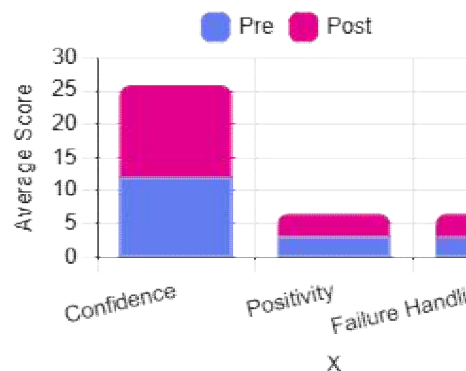


Figure 3. Average Emotionality Components (Pre and Post)

4. Health:

Data reveals a clear improvement in students' physical well-being and classroom behavioral health after the intervention, as reflected across Sleep, Headache, Energy Level, and Excess Talking.

Sleep shows one of the most meaningful positive changes. Pre-intervention scores suggest irregular or inadequate sleep patterns among students, which commonly affect attention and mood. The higher Post-intervention average indicates better sleep quality and healthier rest routines, supporting improved daily functioning and learning readiness.

In contrast, Headache frequency demonstrates a desirable downward trend. Lower Pre scores reflect more frequent discomfort, while improved Post scores suggest reduced physical complaints, potentially due to better stress regulation, posture, hydration, or daily routines. This reduction is an important indicator of improved overall health.

Energy Level shows a strong and consistent increase from Pre to Post. Initially, students displayed moderate or fluctuating energy levels, whereas the Post data indicates greater physical vitality and alertness throughout the day. Higher energy levels strongly complement improvements previously observed in concentration and emotional stability.



A particularly interesting behavioral insight emerges from Excess Talking. Pre scores indicate higher impulsive or uncontrolled verbal behavior, which can disrupt learning environments. Post-intervention averages increase appropriately, indicating better self-control, improved classroom discipline, and healthier expressive behavior, rather than restlessness.

Overall, the collective improvement across all four components confirms that the intervention positively impacted both physical health and behavior regulation. Improvements in sleep and energy appear to contribute directly to reduced headaches and better behavioral control, forming a holistic health improvement pattern among students. The bar graph below presents a single consolidated comparison of average scores for Sleep, Headache, Energy Level, and Excess Talking between Pre and Post phases, strictly based on the Health sheet data.

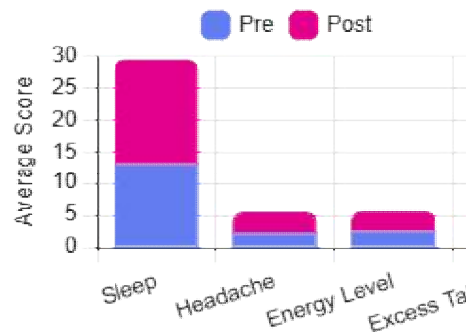


Figure 4. Average Health Components (Pre and Post)

IV. CONCLUSION

The study concludes that yoga intervention plays a significant role in improving concentration, emotional well-being, and stress management among higher secondary students. Regular and structured practice of yoga techniques—including asanas, pranayama, and meditation—was found to enhance mental clarity, emotional stability, and reduce examination-related anxiety, thereby positively influencing academic readiness and performance. Study indicate that students demonstrated improved attention span, better emotional control, and a calmer mindset during academic tasks after the intervention. Many participants reported feeling more relaxed, focused, and confident in handling academic pressure. Additionally, a noticeable reduction in stress indicators and an increase in overall well-being were observed. The findings suggest that yoga serves as an effective, non-pharmacological, and cost-efficient approach to support students' holistic development. Therefore, educational institutions should recognize and integrate yoga as a vital component of student development programs to foster both academic excellence and psychological health.

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