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## **“The Effect of Yoga on Academic Performance in Relation to Stress”**

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### **ABSTRACT**

*Academic performance is concerned with the quantity and quality of learning attained in a subject or group of subjects after a long period of instruction. Excessive stress hampers students' performance. Improvement in academic performance and alertness has been reported in several yogic studies.*

**KEY WORDS:** Academic; performance; stress; yoga; yoga module

**Aims and Objectives:** The main objective of the study was to assess the effect of yoga on academic performance in relation to stress.

**Materials and Methods:** The study started with 300 adolescent students; 159 high-stress students and 141 low-stress students were selected on the basis of scores obtained through Stress Battery. Experimental group and control group were given pre test in three subjects, i.e., Mathematics, Science, and Social Studies. A yoga module consisting of yoga asanas, pranayama, meditation, and a value orientation program was administered on experimental group for 7 weeks. The experimental and control groups were post-tested for their performance on the three subjects mentioned above.

**Results:** The results show that the students, who practiced yoga performed better in academics. The study further shows that low-stress students performed better than high-stress students, meaning thereby that stress affects the students' performance.

### **INTRODUCTION**

Stress is one of the major factors affecting academic performance, especially among students who face academic pressure, time management challenges, and personal life struggles. Yoga, an ancient practice that integrates physical postures, breathing techniques, and meditation, has gained increasing recognition as an effective tool for stress management and overall well-being

Academic achievement is an attained ability or degree of competence in school task, usually measured by standardized tests and expressed in grades or units based on norms derived from a wide sampling of pupils' performance. [1] Studies reveal that even low or moderate levels of stress can interfere with task performance.[2,3] Cognitive reactions of stress result in the inability to concentrate.[4]

Yoga, which is a way of life, is characterized by balance, health, harmony, and bliss.[5] Meditation, being part of yoga, which is the seventh limb of Ashtanga Yoga[6]—a state of alert rest as stated by Maharishi Mahesh Yogi,[7] who founded a new technique of meditation, popularly known as transcendental meditation. By practicing yoga, a person is supposed to reach a state of mental equanimity, where responses to favorable or unfavorable external events are well under the individual's control, and responses are moderate in intensity.[8] The science of yoga is a powerful stream of knowledge, which enables the practitioners to achieve radiant physical health, serene mind, continues spiritual uplift, and creates the ability for harmonious social living.[9] Hatha yoga practices, like asanas (i.e., postures), pranayama (i.e., breathing practice intended to influence vital forces), kriyas (cleaning processes), mudras (i.e., certain interval attitudes), and bandhans (i.e., neuromuscular locks) are mostly taught as physical practices. While various meditational techniques work at the mental level, all these practices are intended to develop a certain type of awareness within oneself, which in turn brings about a change in emotional and visceral functions, and through them, a change in intellectual and somatic functions of the individual takes place. [10]

## **STRESS AND ACADEMIC PERFORMANCE**

Stress negatively impacts cognitive function, memory, and focus, all of which are critical for academic success. Prolonged stress can lead to anxiety, burnout, and a lack of motivation, further hindering performance. Addressing stress effectively is therefore essential to enhance students' ability to perform academically.

## **ROLE OF YOGA IN REDUCING STRESS**

Yoga helps in reducing stress through:

1. **Physical Relaxation:** Yoga postures (asanas) improve blood circulation, reduce muscle tension, and promote physical relaxation.
2. **Breathing Techniques (Pranayama):** Controlled breathing calms the nervous system and reduces the physiological effects of stress, such as increased heart rate and cortisol levels.
3. **Meditation:** Focused meditation helps improve attention, reduce intrusive thoughts, and foster mental clarity.
4. **Emotional Regulation:** Regular practice promotes a sense of emotional balance, enabling individuals to respond to stressors more effectively.

## **IMPACT ON ACADEMIC PERFORMANCE**

Research suggests that incorporating yoga into students' routines can improve their academic performance by:

1. **Enhancing Concentration and Focus:** Yoga improves mindfulness and attention, which are crucial for learning and problem-solving.

2. **Boosting Memory:** Yoga practices improve cognitive functions like memory retention and recall.
3. **Reducing Anxiety:** By alleviating stress and anxiety, students feel more confident and less overwhelmed.
4. **Improving Sleep Quality:** Better sleep contributes to improved cognitive function and mood, essential for academic tasks.

### **Evidence from Studies**

Several studies have reported positive correlations between yoga practice and academic outcomes:

- A study conducted on college students found that those who practiced yoga reported reduced stress levels and showed better performance in exams compared to those who didn't.
- Another study in schools observed improved attention spans and reduced disruptive behaviours among students who participated in yoga sessions.

The present study examines whether there is an effect of yoga on the academic performance of adolescent students in relation to their stress. With this background, the present study was conducted to find the following: (1) Is there any effect of yoga on the academic performance in Mathematics, Science, and Social Studies in relation to stress? (2) Is there any effect of yoga on the academic performance in the three subjects combined in relation to stress.

### **MATERIALS AND METHODS**

The study was conducted in 4 public schools of Hullkoti, District Gadag state Karnataka. Bisht Battery of Stress Scale (BBSS)[37] was administered on 300 students of Class 9. The participants were 150 boys and 1500 girls, with ages ranging from 14 to 15 years. BBSS was administered to identify two stress levels of the students, i.e., high stress and low stress. This test was developed for the measurement of 13 types of stress. Out of 13 scales, two scales, i.e., scale of academic stress and scale of achievement stress were selected.

#### **Intervention**

A yoga module [yogasana + pranayama + meditation + prayer + value orientation program] was shared daily for an hour in the morning with the experimental group for 7 weeks. Same academic performance test was administered on the both groups as a posttest.

### **RESULTS:**

The results indicate that students who practiced yoga achieved better academic performance. Additionally, the study reveals that students with lower stress levels outperformed those with higher stress levels, suggesting that stress has an impact on academic performance.

### **DISCUSSION**

The findings of this study reveal that the students who experienced yoga module performed better in overall academics as well as in their separate subjects than those students who did not experience yoga module. The results are in tune with the earlier studies, which found that

meditation, practiced over long periods, produces definite changes in perception, attention, and cognition.[16] Other study showed that yoga techniques are helpful in management of anxiety and improvement in concentration.[14] Other researchers found that Transcendental Meditation improves academic performance and enhances problem-solving ability. It shows that the students with high stress performed better in the subjects of Social Studies and Science. This result is in tune with the inverted U-shape model of stress and learning,[17] which explains that at first, performance improves as stress increases, presumably because the stress is arousing or energizing. Beyond some point, though, stress becomes distracting and performance actually drops as depicted. Further the findings reveal that excessive stress affects overall academic performance negatively, and this result is in tune with the earlier studies, which conclude that excessive stress is harmful to academic performance and may lead to dropping out. Research has demonstrated that high levels of stress can lead to hypervigilance (inability to focus attention) as arriving at a solution too quickly (premature closure). Higher levels of stress reduced grade point average (GPA) among 146 college men and led to increased psychological and somatic symptomatology. When stress is perceived negatively or becomes excessive, students experience physical and psychological impairment. Stress overloads our mental and physical resources and interferes with the effective use of our skills, and thus, affects negatively on the performance. Moreover, when academic performance in individual subjects was analyzed, the performance was comparable in high stress and low stress groups, but having values very close to significant values. It may be concluded from the finding of the study that with the intervention of yoga, academic performance improves by optimizing the stress levels. So it is suggested that yoga module should become a regular feature in the schools.

## CONCLUSION

Yoga serves as a holistic intervention that addresses both the physiological and psychological aspects of stress, thereby supporting students' academic performance. Integrating yoga into school or college curriculums can provide students with tools to manage stress effectively, improve focus, and enhance overall well-being. By fostering a balanced mind-body connection, yoga paves the way for academic success and personal growth.

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