



Effect of Morning Surya Namaskar on Stress and Attention on School Students

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ABSTRACT

In the ancient practice of Indian culture, yogic practices led the culture as well as health concerns to a new height. Yogic practices have always been associated with a positive impact on both physical and psychological aspects of the body and mind. This study focused on analysing and comparing the effect of Surya Namaskar on stress and attention level before and after treatment in school students. This study associated with 30 male students who were selected randomly and were given the treatment of 1 month Surya Namaskar training in a class group between 13 to 18 years of age. Perceived Stress Scale (PSS) and The Mindful Attention Awareness Scale (MAAS) were used to collect the data before and after the intervention of Surya Namaskar. After the collection of data, the paired t-test was used to examine and collate the data. The PSS and MAAS showed a significant change after the Surya Namaskar intervention as compared to before. In the stress level of school students, the mean $\pm$ SD score before treatment was (23.32 ± 3.68) and after treatment (20.64 ± 2.84) , t -value = 5.44 and in attention level the mean $\pm$ SD score before treatment was (41.28 ± 4.28) and after treatment (45.28 ± 5.39) , with a t -value = 6.19, $df=29$, at the 0.05 level of significance, indicating significant impact on stress and a much higher impact of Surya Namaskar on attention level, as it showed a statistically significant difference in pre and post and the

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Cohen's value at stress and attention was 1.13 and 0.99 which was greater than the threshold value of 0.80 showed the intervention demonstrated the change was not statistically significant but also practically meaningful with a larger effect size.

Introduction

The fundamental basics of a healthy body is the practices of various physical exercises by different methodologies. In the Indian context of physical activity, the ancient practice of yoga and other indigenous games can play a vital role in the promotion of physical and psychological health. Some of the yogic practices like Asanas, pranayama, meditation etc. direct contributes to human health. One of the major practises, namely Surya Namaskar can play a significant role in various psychological management issues like stress, anxiety, anger issues etc.

In addition to encouraging physical fitness, some of the studies suggested that teens frequently experience higher levels of stress due to shifting lifestyles, social pressures and increased academic demands, which can affect their ability to pay attention, participate and learn. Yoga, especially Surya Namaskar is an age-old discipline that combines mindfulness, controlled breathing and physical postures. Regular yoga practice has been shown to help school-aged children's mood, focus and stress level. The problem concerning low physical fitness and poor mental health of school-going children owing to their inactive lifestyle, academic tension and inadequacy in physical activities has gained much attention and therefore requires some concrete solutions. The continuous and uninterrupted practice of Surya Namaskar positively impacts blood circulation and oxygen intake; hence, improves the stamina, physical efficiency and the metabolism of an individual. A betterment in neuromuscular control of body posture, along with the composition of students practicing yoga has also been reported. Parents, along with teachers imparting awareness about yoga to students can lead to positive behavioural changes and thereby ensuring the child's fitness. This study investigated the impact of Surya Namaskar before and after treatment on stress and attention level in school students.

Objective:

The main purpose of this study is to find out the Effect of Surya Namaskar on Stress and Attention level in school students.

Hypothesis:

The study hypothesised that - “Surya Namaskar would have no significant effect on stress and attention among school students.”

Sample Selection:

The experimental research involved 30 male students from a private school of Bhogpur, Jalandhar, aged 13 to 18, who were selected using a purposive sampling method.

Research Design:

The selection of the research design was based on a pre- and post-experimental research design. The stress and attention level of the students were measured after practising 4 days a week for one and a half months of Surya Namaskar intervention, including both dependent (Stress and attention) and independent variables (Surya Namaskar).

Research Tool:

1. **Tools for measuring Stress:** To measure the PSS (Perceived Stress Scale-10), which was given by “Cohen et al., 1983” to measure the stress level of students.
2. **Tools for measuring attention:** For measuring the attention level MAAS (Mindful Attention Awareness Scale – Adolescent questionnaire), which was given by Kirk Warren Brown to calculate the attention among the students.

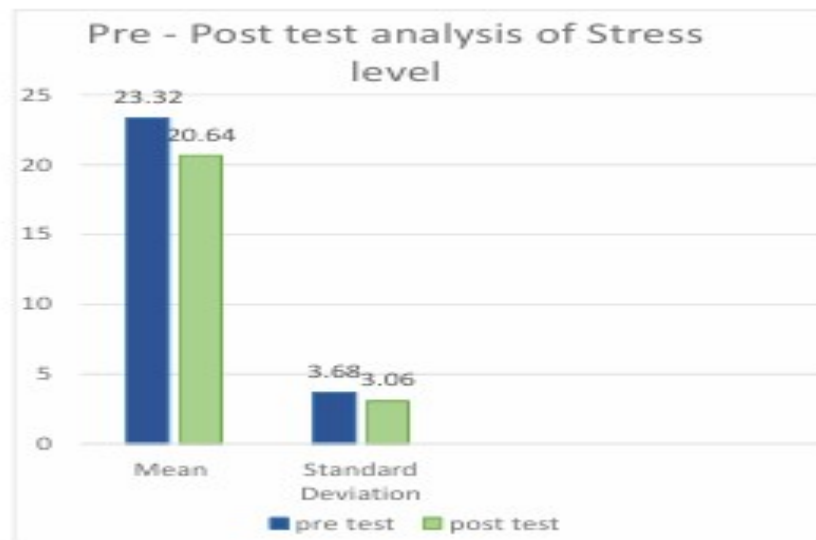
Finding and Results:

The scrutiny of both before and after psychological variables of Stress and Attention using a paired t-test on 30 male students, where we asked the students to fill out the questionnaire regarding stress and attention before and after the intervention of the Surya Namaskar. The findings of the collected data are mentioned below in Table 1, followed by a graphical representation of both data interpretations.

Table 1: Analysis of data before and after intervention on Stress levels

Variable	N	Mean	SD	Level of significance	df	t-value	Cohens d
Pre-	30	23.32	3.68	0.05	29	5.44	0.99
Post-		20.64	2.84				

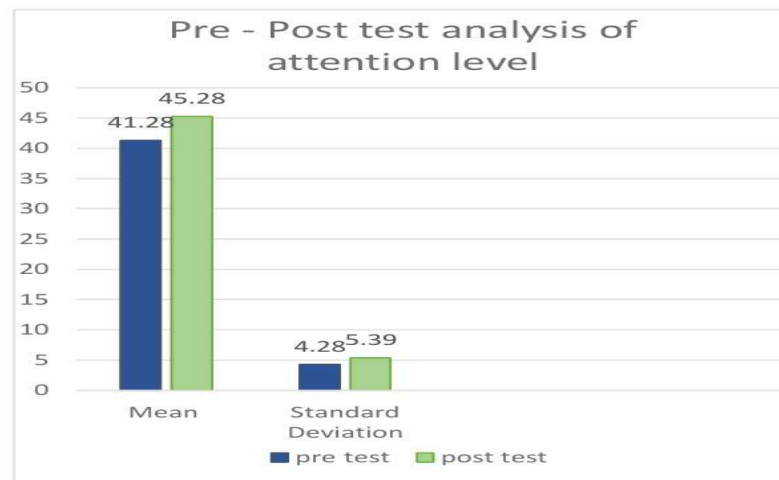
Figure 1: Graphical representation of Pre and post-analysis of Stress level



In the comparative analysis of pre and post stress level the mean and standard deviation of the raw scores. For Stress, Mean $\pm$ SD before the treatment (23.32 ± 3.68) which was smaller than after treatment (20.64 ± 3.06) that showed the significant difference between pre and post treatment which reflect that the Surya Namaskar helps in the reduction of Stress level of the students, at 0.05 level of significance, $df = 29$ and the calculated Cohen's d value was 0.99 which was higher than the threshold value of 0.80 showed a large effect of the students not only statistically significant but also practically meaningful as per the guidelines proposed by Cohen(1988) to interpret the effect sizes. The t-value of this data, which we collected before and after the treatment, was 5.44, higher than the critical value of 2.06, indicating that the Surya Namaskar provided the larger impact on the school students.

Table 2: Analysis of data before and after intervention on Attention levels.

Variable	N	Mean	SD	Level of significance	df	t-value	Cohens d
Pre-	30	41.28	4.28	0.05	29	6.19	1.13
Post-		45.28	5.39				

Figure 2: Graphical representation of pre and post-attention level.

The chart clearly defines that the attention showed a significant effect on the students, as the mean and standard deviation of pre were (visually reinforcing the positive psychological impact of your intervention, 41.28 ± 4.28) and after the treatment of Surya Namaskar, the mean and standard deviation were (45.28 ± 5.39) , which showed a 4.28 5.39 statistically significant improvement in attention level of the students at 0.05 level of significance, $df = 29$ and the calculated value of Cohen's d was 1.13 which was greater than the threshold value of 0.80 indicated that the intervention substantially practical impact on the measured variable effected the students. The t -value of this data which was collected before and after the treatment was 6.19 which was higher than the critical value 2.06, indicating the large impact on the attention level of school students. Discussion: The collection and analysis of pre and post-data with the help of Paired sample t -test results indicate that the treatment (Surya Namaskar) shows a significant positive impact on students' mental health. All the findings and detailed in Table 1, following with graphical representation of the data. Raw data was calculated with the standard psychological inventory with represent the same criteria and demographic region. The null hypothesis indicated that there would be no difference in pre- and post-intervention Surya Namaskar among school students, and the alternate hypotheses stated that there is a significant difference in pre- and post-intervention Surya Namaskar among school students. So the null hypothesis was rejected, and the alternative hypothesis that regular engagement in physical or mindfulness-based activities (like Surya Namaskar) can help lower psychological stress and improve attention levels among teenage male students is amply supported by these findings. However, additional research on a large sample size is necessary to confirm this understanding and guarantee that the findings can be applied to larger populations.

Summary and Conclusion:

The study aimed to find out the Effect of Morning Surya Namaskar on Stress and Attention in school students. As per 2.1 information, we concluded the hypothesis on Stress, where it showed that the calculated t-value > tabulated t-value ($5.44 > 2.0639$) at 0.05 significance level. Hence, the null hypothesis was rejected. As per data mentioned in point 2.2 information, we discussed a hypothesis about attention, which showed that the calculated t-value > tabulated t-value ($6.19 > 2.0639$) at a 0.05 significance level. Hence, the null hypothesis was rejected. As the null hypothesis was rejected, it shows the acceptance of alternate hypothesis, which indicates that there would be significant impact of morning Surya Namaskar on stress and attention management in school students. In both psychological results, there would be a significant decrease in stress and a significant increase in attention. Based on the study, the statistical and graphical analyses confirm that the experimental intervention has shown improvement in attention and a significant reduction in the stress levels of the students. The results indicated that Surya Namaskar is equally beneficial for the mental as well as for the physical aspect of a sports person, hence, it may play an integral role in improving the physical performance of students involved in various sports. The study implies that regular practice of Surya Namaskar can significantly improve mental relaxation, emotional control, self-discipline and performance among the school athletes. The result of the study can be concluded that yoga is useful to human psychology in both competitive and educational settings among sports persons. Regular practice of Surya Namaskar may be highly useful to enhance the overall mental efficiency and well-being of student athletes. Hence, it may be concluded that Surya Namaskar is beneficial for improving stress level and attention among school students.

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