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Effect of Surya Namaskar and Pragya yoga practices on stress of LNIPE students

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Abstract
Background: The present study aims to investigate and compare the effects of Surya Namaskar and Pragya Yoga practices on the stress levels of students from the Lakshmibai National Institute of Physical Education (LNIPE).
Materials and Methods: Thirty (30) college students selected randomly from L.N.I.P.E. located at Gwalior, M.P. The age limit of the subjects ranged from 18-28 years, the selected subjects were divided into three groups. Two groups (n=10) were experimental and one control group (n=10). Experimental group I underwent Surya Namaskar and Group II underwent Pragya Yoga and Group III served as control group (CG). The experimental groups underwent the training for a period of 6weeks for 5 sessions per week.
Results: The adjusted mean of Control group was 4.421; adjusted mean of Pragya group was 5.161; adjusted mean of Surya Namaskar group was 2.91. Adjusted F -value is. 710 which is not significant because the significant value is greater than. 05.
Conclusions: Both Surya Namaskar and Pragya Yog group were found to have Stress to the same extent when Pre - Stress was taken as Covariate.

Keywords: Surya Namaskar, Pragya Yog, Stress

Introduction
Surya Namaskar, also known as Sun Salutation, is a traditional yogic practice that involves a sequence of postures and breathing exercises. It is considered a holistic approach to fitness, encompassing both physical and mental well-being. Surya Namaskar has been reported to have positive effects on cardiovascular health, flexibility, and overall stress reduction (Telles *et al*., 2014) [1]. Pragya Yoga, on the other hand, is a contemporary form of yoga that focuses on enhancing cognitive and emotional functions. It incorporates mindfulness, meditation, and relaxation techniques to cultivate mental clarity and emotional resilience. Pragya Yoga has demonstrated efficacy in reducing stress, anxiety, and improving attention and emotional regulation (Janakiramaiah *et al*., 2015) [2]. Stress has become a ubiquitous phenomenon in the modern world, affecting individuals across various age groups and professions. Among the population, students often face significant stress due to academic pressures, peer expectations, and personal challenges. The detrimental impact of prolonged stress on mental, emotional, and physical well-being is well-documented (Selye, 1956; McEwen, 1998) [4]. In this context, the incorporation of holistic practices like Surya Namaskar and Pragya Yoga has gained attention as potential interventions to alleviate stress and promote overall wellness. Surya Namaskar, a sequence of yoga postures combined with controlled breathing, has been practiced for centuries in India. It has been recognized for its potential to enhance physical fitness, flexibility, and mental clarity (Telles *et al*., 2013) [13]. Pragya Yoga, a meditative practice rooted in ancient Indian wisdom, focuses on mindfulness, self-awareness, and achieving a balanced state of mind (Sahay, 2019) [5]. Both these practices are believed to positively influence stress levels by promoting relaxation and reducing anxiety (Chong *et al*., 2011; Smith *et al*., 2019) [10, 6]. Among the demographic of students, stress management is of paramount importance due to its implications for academic performance and mental health. The period of education is often marked by transitions and challenges that can contribute to heightened stress levels (Hamaideh, 2011) [7]. Consequently, exploring interventions that can mitigate stress among students is a critical endeavor. This study aims to investigate the potential effects of Surya Namaskar and Pragya Yoga practices on the stress levels of students from the

Lakshmibai National Institute of Physical Education (LNIPE). By assessing the impact of these to contribute to the existing body of knowledge on effective stress management practices on stress reduction, the study seeks strategies for students. The findings of this research could have implications not only for academic institutions but also for individuals seeking accessible and holistic approaches to stress relief.

Objectives of the Study

- To characterize the level of stress of Pragya group and Surya Namaskar group of LNIPE Students.
- To study the significant difference of adjusted posttest means between three groups (Two Experimental and one control group) and pretest posttest means score of female students of LNIPE.

Materials and Methods

The study was conducting on 30 subjects (10 Surya Namaskar Group, 10 Pragya Group and 10Control Group) of LNIPE Gwalior. The average age of subject was 18-28 years. The subjects divided into three groups i.e. Surya Namaskar Group, Pragya group and Control group by randomly. Each group consists of 10, 10 and 10 subjects respectively. The experiment was conduct for a period of 6 week as excluding the period required for measurement in the criterion measures at beginning and end on experimental period. Suryanamaskar and Pragya group did suryanamaskar and Pragya Yog with the help of expert and control group did perform daily routine activity. The Anxiety, depression and stress of all subjects were assessed prior and after the experimental period. The data on Anxiety, depression and stress of all subjects were assessed with the help of the Anxiety, Stress, and Depression using ADSS (Anxiety Depression Stress Scale) scale (questionnaire) given by Pallavi Bhatnagar.

Results, Discussion and Conclusions

Descriptive statistics [Verma, J. P. (2000)] and Analysis of Co-variance [Sansalwal, D.N. (2020)] was employed to compare three different groups, namely Control group, Surya Namaskar group and Pragya Yog group along with that for paired mean comparison Least Significant Difference (LSD) post hoc test was also employed. In order to test the hypothesis the level of significance was set at 0.05.

Table 1: Descriptive Statistics of Stress of LNIPE Female Students

Groups	Pre Test		Post Test		Adjusted
	Mean	SD	Mean	SD	Mean
Surya Namaskar Group	5.50	3.83	5.10	3.44	3.35
Pragya Yog Group	5.20	2.85	4.00	3.52	4.04
Control Group	5.80	2.69	3.40	2.75	5.10

Table-1 revealed that pretest mean, pretest SD, Posttest mean, Posttest SD and adjusted mean of three different groups namely; Two Experimental group and one control group. The pretest mean & SD of control group was 5.80± 2.69, pretest mean & SD of Pragya Yog Group was 5.20±2.85 and the pretest mean & SD of Surya Namaskar group was 5.50±3.83, and posttest mean & SD of Control Group was 3.40 ±2.75, Posttest mean & SD of Pragya Yog group was 4.00±3.52 and Posttest mean & SD of Surya Namaskar group was 5.10±3.44. The adjusted mean of Control group was 5.10; adjusted mean of Pragya group was 4.04; adjusted mean of Surya Namaskar group was 3.35. This table has shown in fig.1.

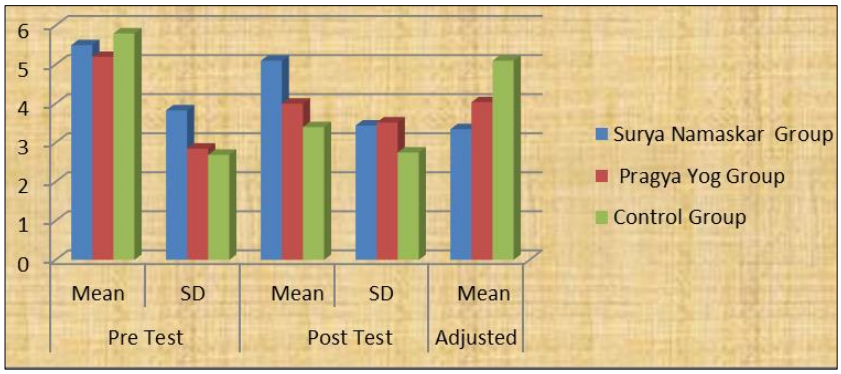

Fig 2: Graphical Representation of posttest mean and SD and Adjusted posttest mean of Surya Namaskar, Pragya Yog and Control Group of Female Students

Table 1: Summary of One Way ANCOVA of Stress of female students of LNIPE by taking their Pre Stress as Covariates

Source of Variance	df	SSy.x	MSSy.x	Fy.x	Sig.
Treatment	2	15.39	7.69	.710	.501
Error	26	281.90	10.84		
Total	30	823.0			

From table-1, it can be seen that the adjusted F -value is710 which is not significant. It indicates that there is no significant difference in adjusted mean scores of Stress of Surya Namaskar, Pragya Yog and Control Group students when their Pre- Stress was taken as covariate. Thus the null hypothesis that there is no significant difference in adjusted mean scores of Stress of Surya Namaskar, Pragya Yog and Control Group students by considering their Pre-Stress as covariate is not rejected. It may, therefore, be said that both Surya Namaskar and Pragya Yog group were found to have Stress to the same extent when Pre - Stress was taken as Covariate.

Discussion of Findings

In assessing the stress levels of the participants, it was observed that both the Surya Namaskar and Pragya Yoga

groups exhibited similar stress levels when the pre-stress scores were considered as covariates. This finding is noteworthy as it suggests that the two practices yielded comparable outcomes in terms of stress reduction. However, it is essential to interpret this result within the context of the existing literature. Numerous previous studies have demonstrated the potential of yoga practices, including Surya Namaskar and Pragya Yoga, to effectively reduce stress levels (Chong *et al*., 2011; Smith *et al*., 2019) [6]. The meditative and mindfulness components of Pragya Yoga are believed to promote relaxation and emotional well-being (Sahay, 2019) [5]. On the other hand, Surya Namaskar's combination of physical postures and controlled breathing has been associated with improved mental clarity and reduced anxiety (Telles *et al*., 2013) [13]. In a randomized comparative trial, Smith *et al*. (2019) [6] found that both yoga and relaxation techniques led to significant reductions in stress and anxiety levels. This parallels the findings of the current study, wherein both Surya Namaskar and Pragya Yoga, which encompass elements of yoga and relaxation, showed comparable stress-reducing effects. While Surya Namaskar and Pragya Yoga might offer similar stress reduction benefits, the individual preferences and inclinations of students could play a role in determining the most suitable practice for them. This aligns with Chong *et al*. (2011), who highlighted the individualized nature of stress management strategies.

Conclusions

- Both Surya Namaskar and Pragya Yog group were found to have Stress to the same extent when Pre - Stress was taken as Covariate.
- Both Surya Namaskar and Pragya Yog Group were equally effective to reduce the level of stress of LNIPE female students.

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