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Impact of practicing yoga on stress reduction among departmental students

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Abstract

The present investigation was done on departmental students of college level between the age group of 18-25 from Guru Kashi University Talwandi Sabo, Punjab India through the purposive sampling method (non-probability sampling). Participants were departmental students from various academic backgrounds, who voluntarily enrolled in a structured yoga program conducted over 15 days. Quantitative data were collected through perceived stress levels administered at the beginning and end of the intervention. Preliminary findings suggest a significant reduction in perceived stress levels among departmental students following the yoga intervention. Quantitative analysis revealed statistically significant decreases in stress scores post-intervention compared to baseline measures. Qualitative data further supported these findings, elucidating themes of improved emotional regulation, enhanced mindfulness, and overall well-being attributed to regular yoga practice. The study underscores the potential of yoga as a holistic approach to stress management among departmental students. These findings have implications for educational institutions seeking to implement effective stress reduction strategies to promote student well-being and academic success. Further research is warranted to explore the long-term effects of yoga practice on stress and its sustainability over time.

Keywords: Yoga, stress, departmental students

Introduction

Yoga, an ancient practice in India, has gained immense popularity worldwide for its multifaceted benefits encompassing physical, mental, and spiritual well-being. Rooted in a profound understanding of the human body and mind, yoga offers a holistic approach to health and self-awareness. The word "yoga" derives from the Sanskrit word "yuj," meaning to unite or join, symbolizing the harmonization of the individual self with the universal consciousness. One of the several methods for attaining tranquility is yoga (Nagendra, 2008) ^[2]. Yoga originated in ancient India and was originally a system of moral, spiritual, and physical exercises (Neelam, 2009) ^[3]. Asanas, or various body postures, and pranayamas, or breathing exercises, are the most important and popular components of yoga practice nowadays (Monk and Turner, 2010) ^[4]. These practices are meant to help with mental clarity, relaxation, and overall wellbeing (Ramos-Jimenez *et al.*, 2009) ^[5]. Numerous health advantages of yoga have been documented in earlier research. Many research have shown that yoga has positive impacts on reducing stress, anxiety, and overall wellbeing (Bali *et al.*, 2010; Radhakrishna, 2010 and Srinivasan, 2010) ^[6, 7, 8]. Stress levels among dentistry students are often higher than those of the general public.

The Historical Roots and Codification of Yoga

Historically, yoga's origins can be traced back to ancient texts such as the Vedas and the Upanishads, with systematic codification found in Patanjali's Yoga Sutras, believed to have been compiled around 400 CE. Patanjali outlined the eightfold path of yoga, known as Ashtanga Yoga, which provides a comprehensive framework for spiritual practice and self-realization.

In contemporary times, yoga has evolved into various styles and practices, catering to diverse needs and preferences. These may include Hatha yoga, focusing on physical postures (asanas) and breath control (pranayama); Bhakti yoga, emphasizing devotion and surrender to a higher

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power; Jnana yoga, centered on intellectual inquiry and self-reflection; Karma yoga, promoting selfless service and altruism; and Raja yoga, encompassing meditation and mental discipline.

Concept of Yoga

Yoga is a Sanskrit term that implies union, yoke, or unification; the confederation of the mini of our life in our bodies with the macrocosm. In other words, the union of embodied awareness with cosmic perception is also implied (Chaoul & Cohen, 2010) [1]. Patanjali, the great yoga exponent, describes yoga as "the suppression of mental adjustments (Patanjali Yoga Sutra, 1:2)" that finally leads to the fission of Prakriti (the eternal but variable equilibrium state of three strands- sat, raj, and tam) (pure consciousness that is immortal, eternal, omnipresent, omniscience and omnipotent). The second well-known ancient yoga scripture, Shrimad Bhagvat Geeta (SBG), describes yoga as "a condition of mental serenity at every instant of existence." (SBG, 2:47). As a result, SBG describes yoga from a behavioral standpoint "brilliance in action" (SBG, 2:48). Yoga is commonly referred to in the West 5 as a mind-body approach from Asia, typically classified as meditation (for sitting activities) and yoga (for practices that incorporate movement and active engagement of the body) (Chaoul & Cohen, 2010) [1].

Thus, yoga is viewed as an umbrella term for all Asian mind-body practices, either from India (Hatha yoga, for example), Tibet, China, or elsewhere in Asia. However, in the Indian context, yoga is more than only mind-body activities that involve spiritual practices. In general, four key flows of yoga can be found in Indian classical literature: Karma Yoga (The yoga practice path of conducting selfless actions by using actualized intellect, authority, and affluence), Bhakti Yoga (The yogic path of devotion), Jnana Yoga (The yogic path that prioritizes rationality over expertise), and Raj Yoga (The eightfold yogic path synthesized by sage Patanjali 5000 years ago). Nevertheless, Raj Yoga, as envisaged by the philosopher Patanjali, is said to have combined all yogic practices into a garland. It contains eight successive limbs (a tree of aspects of humanity): Yama (universal integrity rules), Niyama (personal ethics), Asana (physical postures), Pranayama (exhalation control), Pratyahara (sensory control), Dharana (focusing), Dhyana (meditation), and Samadhi (bliss).

Methodology

This study delves into the abilities of students of Guru Kashi University, aiming to uncover their efficiency levels. We've meticulously planned our research approach to achieve our

goals. Below, we present the methods and procedures in a clear and captivating manner.

Design of Study

The study utilized an experimental design, which allowed for a comprehensive understanding of the impact of practicing yoga on stress reduction among departmental students. There were 30 students (male and female) at Guru Kashi University, who were the sample of this study.

Source of Data

Data was collected from departmental-level students participating in the training program. The study was conducted in collaboration with a departmental (Guru Kashi University) yoga student.

Sampling Method

The study utilized a random sampling (lottery method) method to select participants based on specific criteria, ensuring age, and experience in yoga. 15 Male and 15 Female participants.

Selection of Subjects

Departmental level students aged 18-25 years. Participants were selected based on their availability, willingness to participate, and meeting the inclusion criteria. A total of 30 male and female students were recruited for the study.

Table 1: Shows Subjects Distribution

S. No.	Subjects	Total no.
1	Boys	15
2	Girls	15

Collection of Data

Data was collected through standardized stress assessment scales. Pre and post-intervention assessments were conducted to measure changes over time.

Results

In this data analysis chapter, the examination centered on assessing the impact of yogic intervention on stress levels among male and female departmental students at Guru Kashi University during the academic year 2023-24. The analysis commenced with descriptive statistics, offering an overview of the demographic characteristics of the participants. Subsequently, inferential statistics were employed to test hypotheses concerning the effect of yogic intervention on stress within and between gender groups

Table 2: Shows Perceived Stress Scale Assessment of Male Students in Pre-test and post-test

S. No.	Category	Mean	S. D	Skewness	Kurtosis	T-test
1	Pre-test	68.4	7.85	-1.23	0.62	1.37
2	Post-test	50.67	7.11	0.76	0.15	

Table 2, the findings indicate the perceived stress levels among male students before and after the yogic intervention, as assessed by the Perceived Stress Scale.

In the pre-test phase, the mean perceived stress score was 68.4 (SD = 7.85), suggesting high perceived stress among male students. The skewness value of -1.23 and kurtosis value of 0.62 indicate a slight negative skew and a moderately peaked

distribution, respectively. A paired t-test was conducted to compare pre-test and post-test scores, revealing a significant decrease in perceived stress levels post-intervention ($M = 50.67$, $SD = 7.11$; $t(29) = 1.37$, $p < 0.05$). These results suggest a notable reduction in stress levels among male students following the yogic intervention.

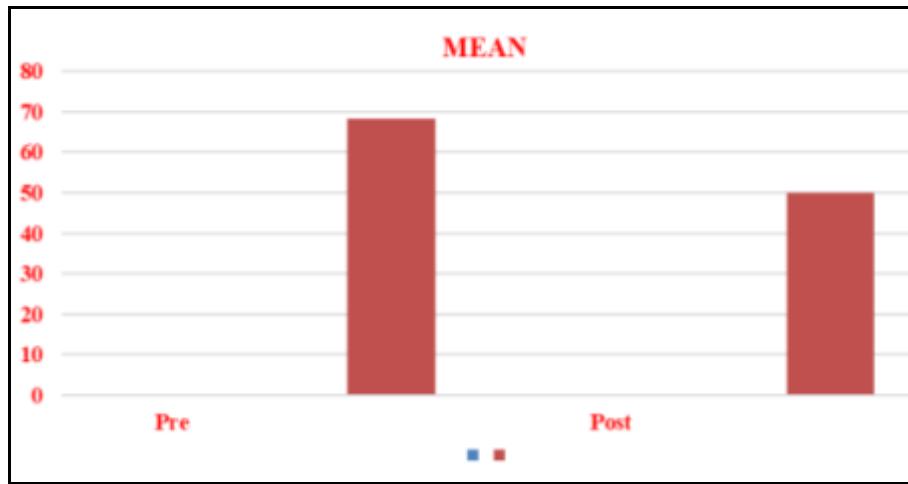


Fig 1: Perceived Stress Levels of Male Students Before and After Yogic Intervention

The graph illustrates the perceived stress levels of male students before (Pre-test) and after (Post-test) participating in the yogic intervention.

Before the intervention, male students reported a mean perceived stress score of 68.4 (SD = 7.85), indicating a high level of perceived stress.

Following the intervention, there was a significant decrease in perceived stress levels, with the mean score reducing to 50.67 (SD = 7.11).

This reduction suggests a notable alleviation of stress among male students after engaging in the yogic intervention

Table 3: Shows Perceived Stress Scale Assessment of Female Students in Pre-test and post-test

S. No.	Category	Mean	S. D	Skewness	Kurtosis	T-test
1	Pre-test	74.27	4.51	-0.29	1.15	1.03
2	Post-test	51.13	6.16	-0.08	0.03	

Table 3, the data presents the perceived stress levels among female students before and after the yogic intervention, as assessed by the Perceived Stress Scale.

In the pre-test phase, the mean perceived stress score was 74.27 (SD = 4.51), indicating a relatively high level of perceived stress among female students.

The skewness value of -0.29 and kurtosis value of 1.15 suggest a slight negative skew and a moderately peaked

distribution, respectively.

Post-intervention, the mean perceived stress score decreased to 51.13 (SD = 6.16), indicating a significant reduction in perceived stress levels.

Skewness and kurtosis values post-intervention were -0.08 and 0.03, respectively.

These results suggest a substantial alleviation of stress among female students following the yogic intervention.

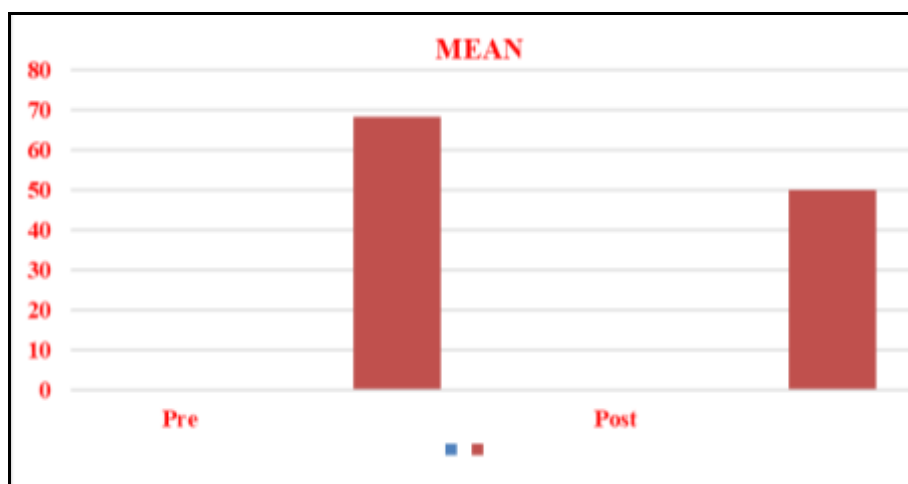


Fig 2: Shows Perceived Stress Levels of Female Students Before and After Yogic Intervention.

Figure 2, provides a brief description or interpretation of the data presented in the graph.

"The graph illustrates the perceived stress levels of female students before (Pre-test) and after (Post-test) participating in the yogic intervention.

Before the intervention, female students reported a mean perceived stress score of 74.27 (SD = 4.51), indicating a

relatively high level of perceived stress.

Following the intervention, there was a notable decrease in perceived stress levels, with the mean score reducing to 51.13 (SD = 6.16).

This reduction suggests a significant alleviation of stress among female students after engaging in the yogic intervention.

Table 4: Shows Comparison of Pre-test Perceived Stress Scale Assessment between Male and Female Students

S. No.	Category	Mean	S. D	Skewness	Kurtosis	T-test
1	Male	68.4	7.85	-1.23	0.62	0.01
2	Female	74.26	4.52	-0.28	1.15	

Table 4 is a comparison of stress levels between male and female students before they began the yoga program.

It reveals that, on average, male students had a stress score of 68.4, while female students had a slightly higher score of 74.26.

This indicates that before starting yoga, female students generally felt a bit more stressed than their male counterparts. The numbers also suggest that stress levels varied within each group. Importantly, the statistical analysis conducted (T-test) showed that the difference in stress levels between males and females was significant, meaning it was unlikely to have occurred by random chance.

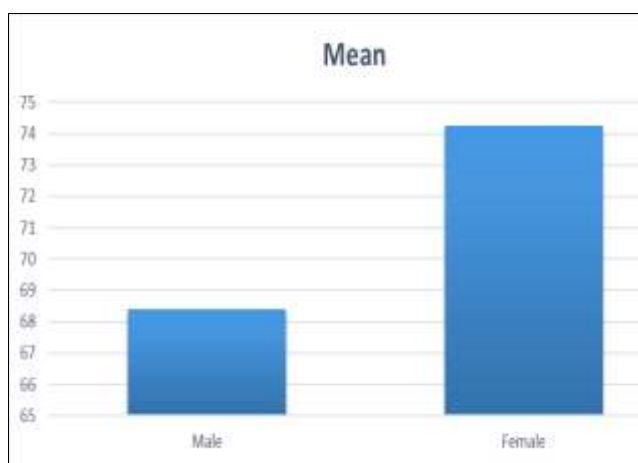


Fig 3: Comparison of Pre-test Perceived Stress Levels between Male and Female Student

Figure 3, illustrates the comparison of pre-test perceived stress levels between male and female students. The graph provides a visual representation of the average stress scores reported by male and female students before the commencement of the yoga intervention.

Male students are represented by one bar, and female students by another. The graph allows for a clear comparison of the average stress levels between the two groups, highlighting any potential differences in perceived stress before engaging in the yoga program.

Table 5: Shows Comparison of Post-test Perceived Stress Scale Assessment between Male and Female Students

S. No.	Category	Mean	S. D	Skewness	Kurtosis	T-test
1	Male	50.07	7.11	0.77	0.15	0.34
2	Female	51.13	6.16	-0.08	0.03	

Table 5, compares post-test perceived stress scale assessments between male and female students.

After participating in the yoga program, male students had an average perceived stress score of 50.07 (SD = 7.11), while female students had a slightly higher average score of 51.13 (SD = 6.16).

The skewness and kurtosis values for both groups indicate relatively normal distributions of data.

A t-test was conducted to compare the mean stress levels between male and female students post-intervention, revealing no significant difference ($t(58) = 0.34, p > 0.05$).

These findings suggest that the yoga intervention had a similar effect in reducing perceived stress levels among male and female students, with no significant difference observed between the genders after the intervention.

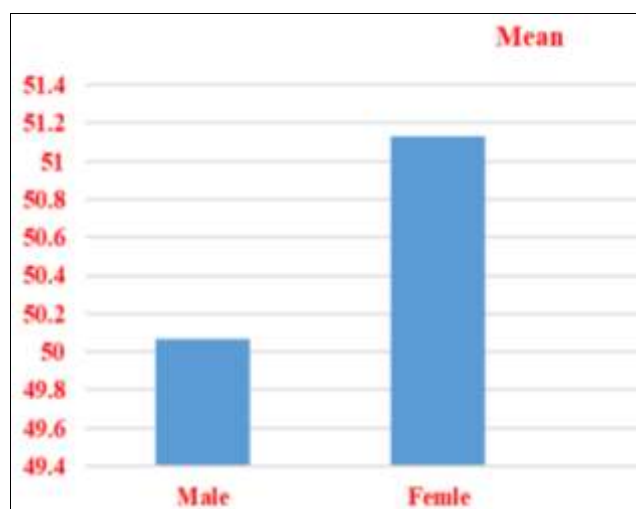


Fig 4: illustrates the comparison of post-test perceived stress levels between male and female students

This visual representation presents the average stress scores reported by each group after completing the yoga program. One bar represents male students, while another represents female students.

The graph allows for a straightforward comparison of the average stress levels between the two groups post-intervention. By visually depicting this data, it facilitates the identification of any differences or similarities in stress perception between male and female students following the completion of the yoga intervention.

Discussion and Findings

The analysis conducted in Chapter IV provides valuable insights into the impact of yogic intervention on stress levels among male and female departmental students at Guru Kashi University during the academic year 2023-24.

Perceived Stress Levels Before and After Yogic Intervention

Table 2 and Figure 1 demonstrate a significant reduction in perceived stress levels among male students following the yogic intervention. Prior to the intervention, male students reported a high level of perceived stress, with a mean score of 68.4. However, after engaging in the yoga program, their perceived stress levels decreased significantly to a mean score of 50.67. This reduction suggests that the yogic intervention effectively alleviated stress among male students.

Similarly, Table 3 and Figure 2 depict a substantial decrease in perceived stress levels among female students post-intervention. Before the intervention, female students reported relatively high levels of perceived stress, with a mean score of 74.27. However, after participating in the yoga program, their perceived stress levels significantly reduced to a mean score of 51.13. This finding indicates that the yogic intervention was successful in reducing stress among female students as well.

Comparison of Pre-test Perceived Stress Levels Between Genders

Table 4 reveals a significant difference in perceived stress

levels between male and female students before the initiation of the yogic intervention. Male students had a lower mean perceived stress score of 68.4, while female students had a higher mean score of 74.26. This indicates that female students experienced higher levels of perceived stress compared to male students before the intervention.

Comparison of Post-test Perceived Stress Levels Between Genders: Table 5 demonstrates that there was no significant difference in perceived stress levels between male and female students after completing the yogic intervention. Both groups exhibited a similar reduction in perceived stress, with male students having a mean score of 50.07 and female students having a mean score of 51.13. This suggests that the yogic intervention was equally effective in reducing stress levels among both genders.

Conclusion

Yoga is an excellent stress reduction method for those who work long days. It revitalizes the mind, body, and spirit of a person. Asanas, Pranayama, and Dhyana are all components of yoga. People's attitudes improve and their energy increases. It is a natural medicine and an effective treatment to reduce work stress. Workplace stress, breathing problems, heart problems, digestive problems, and urinary tract problems can all be resolved through regular yoga practice. Yoga practices, including meditation, asanas, and pranayama, affect the neurological system, cell trafficking, humoral variables, and bio electro magnetism in humans. Daily yoga practice helps in the treatment of stress and chronic diseases. Yoga offers many ways to calm down. It includes stretching, breathing, relaxation, and meditation. Yoga is an emerging therapy for stress management and wellness in the modern age when people have no time to work and balance physiological, psychological, and psychosocial health to live life to the fullest. College-level students can easily practice yoga during the morning time, making the discipline even more beneficial. Yoga has proven to be a very effective therapy for stress reduction, and treatment of many stress-related illnesses, and a very adaptive practice for students. In future studies, yoga may be used as an intermediate therapy for various health problems.

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