

# **A Cross- Sectional Analysis of Mental Health Outcomes in Yoga vs Non- Yoga Practitioners Using DASS- 21**

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## **ABSTRACT**

This research delves into the correlation between practicing Yoga and its effect on mental health specifically among young adults of age group 17–30 through a cross-sectional analysis. The research has used the Depression, Anxiety, and Stress Scale (DASS-21) to measure the level of depression, anxiety and stress in participants. The data was collected by an online survey held through Google Forms. Participants were divided into two categories: those who engage in yoga at least once a week and those who do not practice yoga at all. The aim was to compare the levels of- depression, anxiety, and stress between the two groups to know whether yoga is beneficial for mental health. It was found that the mean scores of participants who practiced yoga, even as little as once a week, had lower levels of depression, anxiety, and stress as compared to the non-practicing respondents. This indicates that yoga, as a form of physical activity and a mindfulness practice, can contribute positively in enhancing the mental health condition, even with minimal commitment making it paramount in practice. However, statistical analysis through t- test show that there is no significant difference in the depression, anxiety and stress scores of practitioners and non- practitioners. The reason behind this may be that there are many other aspects which contribute in ones mental health like- their diet, lifestyle, relationships etc. Also this may indicate that yoga practice of just once a week is not enough to boost one's mental health and requires daily practice with commitment. Further research in this area should focus on the effects of regular and long- term practice of yoga on mental health by including variables like- diet, sleep quality, and other aspects of lifestyle to better understand the extent of its benefits.

**Keywords:** Depression, Anxiety, Stress, Yoga, Well- being, Commitment

## **INTRODUCTION**

Yoga has emerged as an effective approach in improving mental health. Its origin can be traced back to ancient India and has been an important part of our culture. It includes:

- **Physical postures (asanas):** They Enhance body awareness and overall physical well-being.
- **Breathing exercises (pranayama):** It Promotes relaxation in the mind and reduces physiological symptoms of stress; along-with curing several respiratory issues.
- **Meditation and mindfulness:** these practices

improve emotional regulation and cognitive flexibility.

From a psychological perspective, yoga has proved to remove symptoms of depression, anxiety, and stress through:

- Regulation of the autonomic nervous system and promoting a state of relaxation in the body.
- Reduction of cortisol levels, which is the primary stress hormone.
- Enhanced emotional awareness and stress management.

While earlier studies have studied the mental health benefits of regular yoga practice, findings still remain

**How to cite this Article:** Goel, Reya and Kumari, Shalini (2025). A Cross- Sectional Analysis of Mental Health Outcomes in Yoga vs Non- Yoga Practitioners Using DASS- 21. *Internat. J. Appl. Soc. Sci.*, **12** (5 & 6) : 374-378.

inconsistent about the mental health outcomes associated with even minimal engagement in yoga (e.g., once a week) among young adults. The present study seeks to fill this gap by conducting a cross-sectional analysis to compare the mental health outcomes between yoga practitioners and non-practitioners of the age group 17–30.

Although, its important to note that minimal yoga practice cannot alone be enough in bringing about a transformation in one's mental health and must be incorporated with other factors like-

- **Consistency in Practice:** Regular yoga practice supported by discipline and commitment has proved to bring more significant changes in mental health, as it becomes a part of one's habits which helps in transforming their overall routine. This also helps them in making them emotionally strong by increasing their will power.
- **Mindfulness and Meditation:** Although, mindfulness and meditation are an integral part of yoga, some people have assumed only physical exercises as a part of yoga which prevents them from gaining its overall benefits for physical as well as mental health. Regular mindfulness and meditation help us in being aware about our thoughts and emotions and promote a state of calmness and peace in our mind.
- **Diet and Nutrition:** Regular yoga practice must be accompanied by a healthy and balanced diet consisting of all the required vitamins, minerals and other nutrients in right amount. Studies have shown that eating fresh and nutritious food not only makes the physical body healthy, but is also necessary for a balanced and peaceful mind.
- **Adequate Sleep:** Yoga is helpful in regulating sleeping pattern and vice versa as a good sleeping schedule is equally necessary for maintaining a minimum level of agility and flexibility required to perform yogic postures. This also demands one to put limits on their screen time helping them to achieve a state of overall well-being.
- **Supportive Social Connections:** One must build cooperative and positive social connections by maintaining strong relationship with family, friends, neighbors and everyone in our immediate environment. This helps one in building emotional resilience. This is why group yoga sessions can be more energizing and beneficial than individual sessions.

## Review of Literature:

The following studies and researches have been done to explore the effect of yoga on mental health of individuals-

1) "The effects of mindfulness-based yoga on stress reduction in college students"(Shapiro *et al.*, 2007).

This study evaluated the role of yoga as a part of a mindfulness program to manage stress, particularly academic stress. The study was examined over college students for over eight weeks. They were made to practice yoga along-with meditation. The results showed significant levels of reduction in perceived stress of students and there was an improvement in their mindfulness scores too. This emphasized the role of yoga in improving the psychological resilience of young adults.

2) "The impact of yoga therapy on anxiety levels in patients with Generalized Anxiety Disorder"(Khalsa *et al.*, 2015)

This study had examined a 12-week Kundalini yoga program on a sample of 120 adults diagnosed with GAD. It involved- physical exercises and postures, breathing techniques and meditation. The participants were found to show drastic reductions in their anxiety- related symptoms and improvement in their level of emotional regulation; when compared to the control group which supported yoga to be a complimentary treatment for treating Generalized Anxiety Disorder.

3) "The impact of yoga on adolescent mental health and academic performance"(Sharma *et al.*, 2020)

A 12- week yoga program was conducted on a sample of 100 high school students where they were made to perform- asanas including sun salutations, pranayama, and mindfulness exercises. This brought an impact in the adolescents in the form of - 25% reduction in anxiety and 15% reduction in depression along-with improved emotional regulation, and a better academic performance. This suggests that yoga is a holistic tool for the development of youth.

4) "Relationship between regular yoga practice and mental health outcomes in young adults" (Telles *et al.*, 2016)

This study surveyed 200 young adults, to compare the mental health differences between those practicing yoga for at least 6 months with non- practitioners. For this, data was collected using the General Health Questionnaire (GHQ- 28) and Perceived Stress Scale (PSS). The results showed that yoga practitioners had a much lower perceived stress and higher overall mental

well- being as compared to the non- practitioners.

5) “Yoga as a predictor of stress management in adolescents” (Hagins *et al.*, 2013)

To know the correlation between practicing yoga and stress tolerance in high school students, 150 students were surveyed about their yoga habits. They were then examined using the Perceived Stress Scale (PSS) and School Satisfaction Index (SSI). It was found that, students who practiced yoga regularly showed lower levels of stress and a higher level of satisfaction with their academic life. Overall, this study demonstrated the value of yoga in increasing the emotional stability of adolescents.

### Rationale of the Research:

In recent times, there has been an increase in the general level of stress, anxiety and depression in individuals due to various issues like lifestyle problems, work- life imbalance, changes in family structure, etc. In such a scenario, Yoga has proved to be an effective medium in transforming the lives of people. This study aims to prove the effectiveness of yoga through empirical evidence so that people get to know the possible benefits of incorporating yoga in their lives. The main objectives of this study are- To know the differences in depression, anxiety, and stress levels between yoga practitioners and non-practitioners. To assess whether minimal engagement in yoga (once a week) has noticeable mental health benefits. By addressing these objectives, the study aims to provide insights for psychologists, mental health professionals, and policymakers seeking to incorporate holistic, non-invasive approaches like yoga into mental health promotion strategies.

### Hypothesis:

**H0:** There will be no significant level of difference in the depression, anxiety and stress scores of yoga practitioners and non- yoga practitioners.

**H1:** There will be a significant level of difference in the depression, anxiety and stress scores of yoga practitioners and non- yoga practitioners.

## METHODOLOGY

### Research Design:

A survey has been done on a sample of 100 young adults aged 17-30 consisting of 50 males and 50 females via Google forms circulated through Whatsapp.

Participants were made to fill the DASS Questionnaire before which they were asked if they are a yoga practitioner (practicing at least once a week) or a non-practitioner. The participants were equally divided into practitioners and non- practitioners. The depression, anxiety and stress scores were calculated for each participant according to the DASS manual and with the help of t- test a comparison was done between both the groups- yoga practitioners and non- practitioners.

### Tool used in the Study:

#### **Depression Anxiety Stress Scale (21):**

The Depression Anxiety Stress Scale (DASS-21) is a widely used psychological assessment tool for measuring the levels of depression, anxiety and stress in individuals. It is a shortened version of the original DASS-42 and contains 21 items, with 7 items allotted to each of the three sub scales-

- 1) **Depression Sub scale** : It evaluates the symptoms related to depression, such as the feelings of- hopelessness, gloominess and a lack of motivation in life. It reflects the emotional and cognitive areas of depression, which may help us to identify individuals who might have been experiencing sadness since a long time.
- 2) **Anxiety Sub scale**: It measures the physical and psychological symptoms of anxiety, such as- nervousness, worry, fear, sweating, increased palpitations etc. It may help in identifying both acute and chronic physical responses which are important indicators of anxiety disorders.
- 3) **Stress Sub scale**: It assesses the stress- related symptoms like- fatigue, irritation, difficulty in relaxing, feeling overwhelmed etc. It identifies the issues that occur during stressful situations such as the lack of ability to function effectively with everyday demands.

### Administration:

To find the relationship between yoga practice and mental health outcomes, a survey was conducted through online mode by making the subjects fill a form.

Firstly, their basic information was taken which included their- name, age, gender and educational qualification. Then questions related to their yoga practice were asked like whether they practice yoga at least once a week or not and since how long have they been practicing yoga. After this, they were given an introduction

about the DASS questionnaire and were made assured that the information provided by them will be kept confidential.

Now the participants were made to fill the DASS Questionnaire which was then finally submitted.

### **Data Management:**

After each subject submitted their form, data was automatically getting collected in the google folder which was only accessible to me. The data constituted of personal details provided by the subjects along with the answers filled by them in the questionnaire. The final data was arranged and the scoring of each subject's depression, anxiety and stress was done according to the DASS manual.

After this, the anxiety, depression and stress scores of yoga practitioners and non- yoga practitioners were compared through Independent Samples t- test to determine if there is a significant difference between the scores of both the groups. The t- test compares the mean difference between the two sets of scores to the variability within each set of scores.

### **Statistical Analysis:**

There were 50 participants in each group- Yoga practitioners and Non- practitioners. Their statistical analysis of stress, depression and anxiety respectively are as follows-

#### ***Stress:***

While the minimum possible stress score is 0 and the maximum possible score is 42, the average total stress score of Yoga practitioners is 17.04 and 19.32 for non-practitioners. The Independent samples t- test checks whether the mean of the two groups are significantly different. The t- value is -1.089 and the significance value is  $0.27 > 0.05$ .

This shows that though the average stress scores of yoga practitioners is low, still there is no significant difference between in the mean total stress scores between yoga practitioners and non- practitioners.

#### ***Depression:***

While the minimum depression score is 0 and the maximum score is 42, the average total depression score is 14.36 and for non- practitioners, its 14.80. The t- value is -.21 and the significance value is  $.83 > .05$ .

This means that there is no significant difference

between the depression scores of yoga practitioners and non- practitioners.

#### ***Anxiety:***

While the minimum anxiety score is 0 and the maximum score is 42, the average total anxiety score is 14.60 for yoga practitioners and 17.20 for non-practitioners. The t- value is -1.289 with the significance value of  $.20 > .05$ .

Therefore, there is no significant difference between the anxiety scores of yoga practitioners and non-practitioners.

- So, this proves that we fail to reject the Null hypothesis

## **RESULTS AND DISCUSSION**

The result has been different from what was expected. We have proved that the mean scores of yoga practitioners in stress, depression and anxiety are lesser than the non- practitioners. On an average, the yoga practitioners reported 2.28 points lower than non-practitioners in their stress score, 0.44 lower than non-practitioners in depression score and 2.6 points lower than the non- practitioners in anxiety score. But we still fail to reject the Null hypothesis according to which- "There is no significant level of difference in the depression, anxiety and stress scores of yoga practitioners and non- yoga practitioners." This is because the difference between the scores is small as compared to the amount of sampling variability. There can be some other causes as well for this result like; there are several factors which need to be accompanied with yoga in order to benefit our mental health. One who does yoga must have a healthy diet, take enough sleep, include meditation and form healthy bond with others. Also duration and frequency matters a lot in gaining complete benefits of yoga. We, in our research have mostly taken data from people having minimum engagement in yoga (at least once a week) who have been practicing since last one month. The sample of yoga practitioners constituted of majorly the beginner yoga practitioners are not very regular. They have not yet made it a part of their daily routine or habit.

In such a scenario, we cannot expect to observe a significant level of difference in the mental health of people with a practice like yoga which requires one to wholeheartedly involve in it on daily basis with discipline and motivation.

### Findings and Suggestions:

- While assessing the yoga practitioners their additional information must be gathered which would include other variables like- health choices, lifestyle and awareness about their health.
- In the next research, emphasis should be laid on the old practitioners of yoga who have been practicing it for years to know its long- term benefits and to get a significant level of difference in their scores with the non- practitioners.
- In the further researches, multiple assessment tools or a single but very effective tool must be used.

In place of an online setup, offline setup for data collection could be established to avoid any extraneous variables and also for a detailed face-to-face interaction.

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