



A Psychological Study on the Effect of Yoga on Anxiety level of 11th Grade Students



Dissertation submitted for the partial fulfillment of requirements for degree of

BACHELOR OF ARTS

IN PSYCHOLOGY

Semester –VIth (Psychology)

2019

Submitted To: H.N.B. Garhwal University

Submitted By: Sweta Gusain

Supervisor: Dr. Poonam Pandey

B.A VITH Sem
Psychology

Assistant Professor
Department of Psychology

DECLARATION

I declare that the Project Work entitled: **“A Psychological Study on the Effect of Yoga on Anxiety level of 11th Grade Students”** has been prepared by me under the guidance of Dr. Poonam Pandey, Assistance Professor of Department of Psychology, Shaheed Durgamal Govt. P.G. College, Doiwala, Dehradun, India. No part of this report has formed the basis for the award of any degree or fellowship previously.

Sweta Gusain

BA 6th Semester

Department of Psychology

SDM P.G. College, Doiwala

Dehradun, India

CERTIFICATE

This is to certify that Sweta Gusain has prepared her project work entitled: **“A psychological study on the effect of yoga on anxiety level of 11th grade students”** has been completed in the academic year 2018-2019. For the award of bachelor's in psychology degree of the Hemvati Nandan Bahuguna Garhwal University, under my guidance. She has carried out the work at the Department of Psychology, SDM P.G. College, Doiwala, Dehradun.

Dr. Poonam Pandey

Assistant Professor

Department of Psychology

SDM P.G. College, Doiwala, Dehradun

TABLE OF CONTENTS

Acknowledgement

Abstract

Chapter-1 Introduction

Anxiety

Yoga

Health Benefits of Yoga

Rationale of the study

Chapter-2 Review of Literature

Objectives of the study

Hypothesis

Chapter-3 Methodology

Variable

Sample

Inclusion & Exclusion criteria

Tools

Comprehensive Anxiety Test (2006) by Dr. Harish Sharma, Dr. Rajeev Lochan Bhardwaj & Dr. Mahesh Bhargava

The Administration of Yoga Package Programme by Yoga Teacher

Experimental Design

Before-And-After Experiments

Design Procedure

Actual Administration

Pre-Test & Post-Test Session

Statistical Analysis

Chapter-4 Result

Chapter-5 Discussion & Conclusions

Limitations & Suggestions

Future Implications

References

ACKNOWLEDGEMENT

I would like to begin by expressing my deepest gratitude to the Almighty God for His blessings and guidance throughout this project. Without His grace, this work would not have been possible.

I am immensely thankful to my guide, Dr. Poonam Pandey, Assistant Professor of Psychology at SDM P.G. College, Doiwala, for her invaluable suggestions, encouragement, and support throughout the study. She has been a constant source of inspiration and motivation for me, and I have learned a lot from her expertise and experience.

I would also like to extend my sincere appreciation to Dr. M.C. Nainwal, Principal, and Ms. Prachi Bahuguna, Librarian of SDM P.G. College, Doiwala, for providing me with this opportunity to conduct the dissertation and for facilitating me with the best resources and environment. I am grateful to the respondents of my project work for their cooperation and assistance during the data collection process.

My heartfelt gratitude goes to Dr. Vandana Gaur, Head of the Department, and Dr. Rakesh Kumar Nautiyal, Department of Psychology, SDM P.G. College, Doiwala, for their helpful suggestions and feedback for improving the quality and clarity of the manuscript. They have also been very supportive and understanding whenever I faced any difficulties or challenges.

I would like to acknowledge the unconditional love and support of my parents, who have always been there for me throughout this project and my entire academic journey.

I would also like to thank all my college faculty members for their guidance and assistance in various aspects of my studies. They have enriched my knowledge and skills with their expertise and wisdom. Last but not the least, I would like to express my warm thanks and affection to all my dear friends, who have cheered me up and boosted my confidence whenever I felt low or discouraged. They have made this journey more enjoyable and memorable for me.

I dedicate this work to all the people who have contributed to it in one way or another. I hope that this study will add to the existing knowledge and benefit the society in some way.

Sincerely,

Sweta Gusain

ABSTRACT

Anxiety have become major killers in our developed world, particularly the youth are losing their confidence and getting the academic stress. A good ability to cope with anxiety is, key to resilience in the face of whatever life throws at us. Yoga has become a popular way to renew the body by increasing strength and improving balance. Given the many other stress reduction benefits of yoga, it can also be helpful in managing fears, panic, and anxiety. The present study aimed to investigate the effect of yoga on students' anxiety levels. This study is an experimental method design with pre-post-test. The study used a purposive sampling technique on a sample size of 75 students (aged 16 to 19 years) and selected 40 students with high level of anxiety and were divided in one control and experimental group, from government inter college in Jolly grant Dehradun who were included in the study. To collect data, the Comprehensive Anxiety Test (C.A. Test) was used to assess anxiety. For eligible samples, administration of yoga package included asanas and pranayama were carried out up to 4 days for 1 hour by a yoga teacher. The result showed that there was a significant effect of yoga on students with high anxiety level in experimental group. As discussed in the current research study, it is quite evident that the number of existing research findings has exposed a relationship between yoga and anxiety. In addition to the results, the study suggests framing anxiety as an essential aspect of our humanity and part of the natural human emotional response to circumstances in our lives. It is also about challenging the stigma that still gets in the way of reaching out for health and support whenever the levels of anxiety become a real problem.

Keywords: Anxiety, Yoga, Students, Mental health, young adults, Health benefits

CHAPTER- 1

INTRODUCTION

Anxiety is one of the most important psychological problem people face nowadays. Approximately 40 million adults aged 18 and older, or about 18.1% of people in this age group in the year of 2005, had an anxiety disorder. It is a cluster of mental disorder that can affect anyone, no matter, age, height, weight, sex, or race. Additionally, it makes us live in constant fear of worries about what may or may not happen. However, the results may not always turn out to be what we desire.

Anxiety is a disorder in which the person has the feeling of worry, nervousness, or feelings of apprehension. The disorder can hamper many different aspects of life, such as dealing with the pressure of education, and the building of relationship make family and friends. The pressure on students today is the main reason of increase in anxiety among young adults. It is an emotion which is familiar to everyone. If it is normal anxiety, the reason for it, are usually obvious and the anxiety is a proportion to the cause. However, anxiety also can emerge when there seems to be no apparent reason for it, or it can be manifested out of proportion to the cause, which is known as pathological anxiety and is quite harmful for an individual's mental well-being.

Anxiety provoking situations, or stress situations, have physiological effects that manifests themselves through the autonomic nervous system and the endocrine system. When an individual's security is threatened, physiological changes occur and help prepare them to meet the danger. These physical changes can vary from, the heartbeat to blood pressure increase, chest pain, and respiration issues may be occur. Additionally, digestion also can be disrupted with the loss of appetite, nausea, vomiting or diarrhoea, shaking or sudden feeling of weakness can occur (Kaur, 1970). However, too much stress or the feelings of being anxious constantly can affect students mental health. Anxiety can affect a person's self-achievement, education and even creating/keeping relationship with family and friends. It may be either a normal sign of future and present danger or a symptom of psychological imbalance. As a signal, it can serve the useful function of alerting the organisms and getting it ready

to “fight or flee.” Current research asserts that anxiety disorders is unceasing relentless and even can grow worse if not properly treated.

Throughout our life, we all have had anxiety and we all can agree that it's not the best feeling in the world. In modern societies, human beings are gradually becoming more uncompromising and egoistic resulting in unsuccessful marital relationships. Such situation adversely affect the young generation of the family and they feel unsecured and left out. Further, the lifestyle such as secret smoking, habitual hostility and suspiciousness towards others, a diet high in fat and low in fibre and a sedentary way of life leads to many psychological and psychosomatic problems.

Erickson (1963) viewed anxiety as secondary to the conflicts of the child, adolescents, or adult encounters in each stage of life. This is not to suggest that anxiety has no physiological components when it occurs, the expression of anxiety also may vary greatly from mild worry or vague uneasiness to dread, apprehension, or panic. Associated feeling of gloom, depression, pessimism, inadequacy, helplessness, or hopelessness, may also occur. Individuals may be unable to sleep, have nightmares or awaken easily. However, experiencing it too much or too often means becoming overwhelmed, unable to find balance in lives and to relax and recover. Despite the challenges of panic attacks and other anxiety disorder, there are many self-help strategies that can assist in coping anxiety.

Most people with anxiety go out on search for treatment, medications, or yoga to help in coping anxiety. All individuals experience anxiety; it is a natural human state and a vital part of our lives. Anxiety is considered a problem when symptom interferes with everyday life functions. According to the current research on anxiety disorder, such kinds of social problems will greatly affect the progressive attitude of the future generation. They are several studies done in anxiety management through yoga and allied system of therapy.

Anxiety

According to Cambridge English Dictionary (2019), anxiety is defined as “an uncomfortable feeling of nervousness or worry about something that is happening or might happen in the future.” Worry is the main characteristics of anxiety because it is created only through fear. Here it is desirable to make it clear that there is a difference between fear and anxiety. Fear is the mood that lasts for sometimes, but anxiety is a long-term sentiment. The fear is associated with fearful situations those who are currently present, but anxiety is related to such incidents that are occurring in the future.

Anxiety is a general term for several disorders that cause nervousness, fear, apprehension and worrying. These disorders affect how we feel and behave, and they can manifest real physical symptoms. Mild anxiety is vague and unsettling, while severe anxiety can be extremely debilitating, having a serious impact on daily life.

The following symptoms are present mainly in Anxiety:

1. ***Mental Symptoms:*** The symptoms of predominantly aggravated mental symptoms are found in patients with anxiety are-
 - A. Inability to concentrate.
 - B. Difficulty in decision making.
 - C. Hypersensitivity.
 - D. Discouragement.
 - E. Sleep disturbances.
2. ***Physical Symptoms:*** The symptoms of predominantly aggravated physical symptoms are found in patients with anxiety are-
 - A. **General-** Loss of Body Weight.
 - B. **Heart-Arteries-** Increasing heartbeat, having a clear personality in the pulse motion or feel heaviness in the chest.
 - C. **Health-** Lack of air or experience of the suffocation.

D. Skin- Sweating in the palm, or more sweat in the night.

E. Stomach- Loss of appetite, dryness in mouth, nausea, frequent urination, etc.

There are generally two differences in Anxiety:

1. **Normal Anxiety:** The person is naturally intimidated and anxious due to any kind of loss, difficult and confusing situation, protection of ideal and prestige, the welfare of the person, and the fear of obstacle arising in security. The cause of this anxiety is due to external factors such as worry about circumstantial events.
2. **Abnormal Anxiety:** The abnormal anxiety is the existing inner fear of apprehensive within the person and individual personal function. Constant, chronic, and unsubstantial worry that causes significant distress, disturbs the class and work interference and social life of the person.

In short, every person can suffer from anxiety. The amount of anxiety may be low or high, but the situation of extreme anxiety or abnormal anxiety is frightening. The person gets confused with many physical and mental problems and the progress is stopped.

Yoga

The word 'Yoga' comes from the Sanskrit word 'Yuj' which means 'Union.' According to yogic scriptures, the practice of yoga leads to the union of individual consciousness with universal consciousness.

'Yoga' refers to an inner science comprising of a variety of methods through which human beings can achieve union between the body and mind to attain self-realization. The science of Yoga has its origin 1000 of years ago, long before the first religion or belief system were born. According to Yogic, Lord Shiva has seen as the first Yogi or Adi Yogi and the first guru or Adi Guru, several 1000 years ago, on the banks of lake Kanti Sarovar in the Himalayas, Adi Yogi poured, his profound knowledge into the legendary Sapta Rishis or "Seven sages."

Yoga has spread all over the world by the teachings of eminent yoga masters. Today, everybody has conviction about yoga practices towards the prevention of disease, maintenance, and promotion of health. Million and millions of people across the globes have benefited by the practice of yoga which is blossoming and growing more vibrant with each passing day.

The aim of yoga practice is to overcome all kind of suffering that led to sense of freedom in every walk of life with holistic health, happiness, and harmony. Yoga-mind-body practice is considered one of many types of complementary and integrative health approaches. Yoga brings together physical and mental disciplines that may help in relax and manage stress and anxiety.

Yoga works on the level of one's body, mind, emotion, and energy. This has given rise to 4 broad classifications of yoga.

- **Karma Yoga**- Where we utilise the body.
- **Gyan yoga**- Where we utilise the mind.
- **Bhakti Yoga**- Where we utilise the emotion.
- **Kriya Yoga**- Where we utilise the energy.

Patanjali defines the word “yoga” in his second sutra:

Yoga's citta-vrtti-nirodhah

योगश्चित्तवृत्तिनिरोधः

-Yoga Sutra 1.2

- Chapter-1 Samadhi Pada

Swami Vivekananda translates the sutra as “Yoga is restraining the mind-stuff (citta) from taking various forms (vrittis)”.

Yoga is not merely a form of exercise for the body. It is an ancient wisdom for a healthier, happier, and more peaceful way of living which ultimately leads to union with the self. Patanjali was pioneer of classical yoga. Patanjali (n.d.) defined yoga as “the cessation of the modification of the mind.”

Yoga is defined as a practice consisting of three components: gentle stretching or poses; exercises for breath control/ breathing techniques; and meditation as a mind-body intervention. The version used mainly in the West is hatha yoga, which consists of an integration of asana (postures), pranayama (breathing exercise), and meditation (SB, 2004). Yoga has many styles, forms, and intensities. Hatha Yoga may be a good choice for stress and anxiety management.

The core components of Hath Yoga and most general yoga are:

- ***Poses:*** Yoga Poses, also called postures, are a series of movement designed to increase strength and flexibility poses range from lying on the floor while completely relaxed to difficult postures that may have to stretch physical limits.
- ***Breathing:*** Controlled breathe is an important part of yoga, brings calmness in body and mind.
- ***Meditation or Relaxation:*** In yoga, meditation helps to be aware of the present without judgements.

Health Benefits of Yoga

The potential health benefits of yoga include:

- ***Emotional Regulation:*** Yoga promotes the growth of emotional regulation abilities, thereby fostering the acquisition of crucial skills necessary for effectively managing and responding to emotions. By engaging in mindfulness and self-awareness exercises during yoga sessions, individuals can acquire the necessary tools to mitigate anxiety levels.
- ***Reduced Anxiety:*** Yoga’s efficacy in alleviating symptoms of anxiety has been demonstrated, as it is intricately interconnected with the functioning of the nervous system.

- ***Stress Reduction:*** It helps in activating the body's relaxation response by practicing various relaxation techniques such as deep breathing and meditation which reduced the production of stress hormones and promote a sense of calmness and well-being.
- ***Improved sleep:*** Regular yoga practice has been linked to better sleep quality, indirectly benefiting the nervous system's recovery and function as it provides relief from the hustle and bustle of modern life.
- ***Enhanced mind-body connection:*** Yoga places significant emphasis on the interrelation between respiration, physical activity, and attentiveness, thereby cultivating an enhanced comprehension of the corporeal vessel and its sensorial perceptions.
- ***Increase blood flow and healthy heart:*** Various yoga poses and stretches helps in improving circulation of blood flow throughout the body and contribute to heart health by reducing blood pressure and cholesterol levels.
- ***Balancing sympathetic and parasympathetic nervous system:*** Yoga encourages a balance between the nervous systems in an extraordinary way and promote overall nervous system harmony.
- ***Increased Mindfulness:*** An essential element of numerous yoga practices, entails directing one's focus to the current moment devoid of any form of evaluation. This aptitude has the potential to emancipate individuals from anxious cognitive patterns and foster a more optimistic frame of mind.
- ***Enhanced Self-efficacy:*** Daily yoga practice can contribute to increased self-efficacy which can positively impact the confidence and assurance in managing anxiety.
- ***Enhanced Mobility:*** Yoga emphasizes the importance of stretching and strengthening as these two combines, the body help lubricate the joints. This can be especially beneficial for individuals dealing with conditions like arthritis. It helps in overall joint mobility.

Rationale of the Study

The structure of modern society is developing in such a way that every individual is compelled to engage in contemporary intellectual work. Education and educational establishments are also actively engaged in the era of competition. Prior to this period, the child's cognitive faculties were not as multifaceted for the purpose of learning. Scholars who had successfully concluded their academic pursuits within a specific timeframe, the academic endeavours were commensurate with their means of sustenance.

But as soon as the time progressed, the problems for the students increased as well. These challenges can be attributed to factors such as the rapid growth of population, the lack of livelihood resources, job opportunities. Parents started enrolling their children in school at the tender age of 3, due to the concerns of their child's insecure future. In order to expedite the child's reading ability, it is imperative to allocate additional resources. A greater emphasis has been placed on the proportion of children who perform well on examinations. Consequently, parents are enrolling their children in extensive tutoring programs and prioritizing their academic pursuits. Moreover, individuals in certain professions are assuming additional responsibilities to establish themselves as superior to their peers. Emerging probabilities are solely being utilized in accordance with current trends. Presently, it has become somewhat fashionable to assign more challenging homework. The majority of parents possess a propensity to engage in employment, and because of the demolished joint family system, a sense of solitude is generated in children.

As an outcome of the aforementioned phenomena, anxiety, fear, and tension are arising among students from an early age. At an age when children ought to be experiencing a carefree and youthful childhood, indications of anxiety maturation in children have begun to manifest mentally and nobody has paid more attention to this serious problem, but they deliberately ignored selfishly.

In the present era, the significance of yoga is gradually being acknowledged. Many people are getting health benefits from yogic therapies because it has introduced to us in a very simplified way

by the scholars. At first, it was just considered to be the practice of the monks and yogis but now it has started to growing recognition that is applicable to the wider population. Furthermore, yoga also has been incorporated into the curriculum of educational institutes, including schools and universities.

The current research was an attempt to understand the effect of Yoga on anxiety level of 11th grade students as they all prepare themselves for their final exam and boards as it is, examinations brings a lot of anxious nerve wrecking thoughts. The aim of the current study was to determine the anxiety level of students and to examine how yoga impacts their level of anxiety. The research will also contribute to developing a better understanding of the levels of anxiety and how we can reach out for help and support when students anxiety become more worse. It will help provide a better support system to the students for building their careers and dealing with the problems effectively.

CHAPTER 2

REVIEW OF LITERATURE

A review by (Li & Goldsmith, 2012) found that while many studies reported a decrease in stress and anxiety symptoms with yoga, further research is needed to confirm these findings. Azami et al., (2018) conducted a study in Iran and found that regular hatha yoga practice significantly reduced depression, anxiety, and stress in women. Pascoe and Bauer (2015) conducted a systematic review and found preliminary evidence that yoga can regulate the sympathetic nervous system and decrease depressive and anxious symptoms. Finally, Gupta et al. (2006) found that a brief lifestyle intervention based on yoga significantly reduced anxiety levels in both healthy and diseased subjects.

Yoga and meditation can alleviate stress, anxiety, mood disturbance, and musculoskeletal problems, and can enhance cognitive and physical performance. In a study by Somerstein (2010) who examined the powerful synergistic effect of talk therapy, combined with pranayama (yoga breath work) to alleviate anxiety in the case of Julie, whose anxiety can be understood as a symptom of an attachment disorder. Additionally, researcher include a description and instructions for “Deergha Swasam,” a type of calming yoga breath.

Many uncertainties and methodological problems and both theoretical as well as practical issues, surround research pertaining to yoga in health and disease. Joshi et al. (2012) explored the role of yoga in the management of anxiety disorders. Call et al. (2014) examined the efficacy of two brief elements of an empirically supported mindfulness-based protocol (MBSR), hatha yoga and body scan, in the reduction of anxiety and stress symptoms. Results indicated that there were significant differences between groups (i.e., waitlist control, hatha yoga, and body scan) on indices of anxiety and stress.

The main aim of Falsafi (2016) was to compare the effectiveness of two different types of intervention practices (mindfulness vs. yoga) and a noninterventional control group in mitigating the effects of depression and/or anxiety in college students. Depressive, anxiety, and stress symptoms

decreased significantly ($p < .01$) from baseline to follow-up conditions in both the mindfulness and yoga intervention groups.

Brown et al. (2017) used a mixed-methods convergent parallel design to explore the effect of yoga on quality of life, trauma, and anxiety in low-income adults with mental illness. Wilcoxon Signed Ranks Tests indicated a statistically significant decrease in anxiety and PTSD after the yoga intervention, but no significant changes in quality of life or trait anxiety. Other influential work includes (Kozasa et al., 2008) "Siddha Samadhi Yoga" which is a program in which meditation is associated with pranayama (breathing exercises), 22 volunteers with anxiety complaints were assigned to two groups. A significant reduction in scores on anxiety, depression, and tension was found in yoga group. There is reasonable evidence for its use as second-line monotherapy or augmentation to medication in mild to moderate major depression and dysthymia. In anxiety disorders, yoga may be superior to medication for a subgroup of patients, but its benefits in specific conditions are still largely unknown (Silva et al., 2009). The research collectively suggest that yoga may be effective in reducing anxiety.

Orlando (2013) presented a case study demonstrating the clinical efficacy of yoga therapy in treating anxiety and panic disorder in an adolescent female. Kirkwood (2005), although noting methodological inadequacies, reported positive results in the treatment of anxiety and anxiety disorders with yoga. Li (2012) reviewed human trials and suggests that yoga may relieve stress and anxiety, although further investigation with larger, well-defined populations is needed.

Yoga has been studied as a potential intervention for anxiety. Several studies have shown that yoga can have short-term effects in reducing state anxiety and heart rate variability (HRV) (Albracht-Schulte & Robert-McComb, 2018). However, the effectiveness of yoga in treating acute, chronic, and treatment-resistant mood and anxiety disorders is still inconclusive (Vollbehr et al., 2018). Another study found that integrated yoga intervention significantly decreased state anxiety and perceived stress, and shifted HRV towards parasympathetic dominance (Sudharkodhy et al., 2020). Overall,

while there is some evidence supporting the effectiveness of yoga in reducing anxiety, more high-quality studies are needed to draw firm conclusions.

Several studies have discovered that the practice of yoga can have a substantial impact on the reduction of anxiety levels amongst students. Kamble et al., (2019); Malathi and Damodaran (1999) both documented a decline in anxiety scores amongst medical students following their participation in yoga training. The researchers also made note of a decrease in exam-related anxiety. Expanding upon these findings, (Choube & Garg, 2020) and (Lemay et al., 2019) further investigated the topic. Choube (2020) proposed that yoga possesses psycho physiological effects that are able to alleviate stress in undergraduate students, while Lemay (2019) reported a noteworthy decrease in stress and anxiety levels amongst college students who participated in a six-week yoga and meditation program. Taken together, these studies collectively imply that yoga can serve as an effective tool for the management of anxiety in students.

Javnbakht et al., (2009) also found that yoga led to a significant decrease in anxiety levels in women. The experimental group (n=34) participated in twice weekly yoga classes of 90 min duration for two months. The control group (n=31) was assigned to a waiting list and did not receive yoga. Participants were randomly assigned into Both groups and were evaluated again after the two-month study period. These studies collectively suggest that yoga can be an effective tool for managing anxiety in students.

Objectives of the Study

The objective of the research is to study significant effect of yoga in the student's anxiety level after post-test session among 11th graders.

Hypothesis

H₀: There will be no significant effect of yoga in the student's anxiety level after post-test session.

H₁: There will be a significant effect of yoga in the student's anxiety level after post-test session.

CHAPTER- 3

METHODOLOGY

Variable of the Study

Dependent Variable (DV): Anxiety

Independent Variable (IV): Yoga

Sample

A total of 75 students between the ages of 16-19 were selected from the target population which composed the sample for the present research. We selected 40 students with high level of anxiety by using purposive sampling technique. Furthermore, the samples were divided based on the scores on the anxiety scale in the pre-test session in one control and experimental group (group A= 20/Group B=20), from Government Inter College in Jolly grant, Dehradun. The data collection was done through questionnaires distributed in experiment room.

Inclusion Criteria

- Students who gave their consent to be a part of this study.
- Students who can understand the items of the questionnaire were included.
- Students who have not practiced yoga in past 1 year.

Exclusion Criteria:

- Students in the age group other than 16-19 were excluded.
- Students who practiced yoga in past 1 year.

Tools Used

1. Comprehensive Anxiety Test

Comprehensive Anxiety Test (2004) as developed by Dr. Harish Sharma, Dr. Rajeev Lochan, and Dr. Mahesh Bhargava. This is very easy and simple test. It contains 90 items with answer 'yes' or 'no'. Higher scores obtained the test indicate greater anxiety levels. The response indicated as 'Yes' is awarded a score of 1 and 'No' is awarded for score of 0.

The 90 items Inventory explores the factors responsible for the development of anxiety, broadly into 3 categories i.e., biological, psychological, and sociological correlation of anxiety. It is a self-administered test suitable for both individual and group testing.

The test-retest method has been employed to determine the temporal stability of the test. The product moment correlation between test and retest scores has been found to be 0.83.

The five norms that covers the level of anxiety based on scores:

- A. Very high anxiety level (A⁺) Above 60
- B. High anxiety level (A) Above 35
- C. Normal anxiety level (B) 30
- D. Low anxiety level (C) Below 30
- E. Very high anxiety level (C⁻) Below 25

The test is said to provide both a reliable and valid measurement of anxiety of an individual.

2. The Administration of Yoga Package Programme:

A four-day yoga package programme for 30 minutes daily was developed with the help of yoga teacher and was executed on the experimental group after the pre-data collection. The yoga package included the following factors, along with their procedure used in this study.

1. **Asanas:** A set of 6 Yoga asanas were selected, practiced, and taught to the students.

- a. ***Surya Namaskar/Sun Salutation-*** There are 12 poses of Surya Namaskar which comes in sequence, and it was performed in progressive manner from 3 to 5 repetitions for 5 minutes.
 - ***Pranamasana:*** Om Mitraye Namaha
 - ***Hasta Uttanasana:*** Om Ravaye Namaha
 - ***Hastapadasana:*** Om Suraya Namaha
 - ***Ashwa Sanchalanasana:*** Om Bhanave Namaha
 - ***Chaturanga Dandasana:*** Om Khagaye Namaha
 - ***Ashtanga Namaskara:*** Om Pushne Namaha
 - ***Bhujangasana:*** Om Hiranya Garbhaya Namaha
 - ***Adho Mukha Svanasana:*** Om Marichaye Namaha
 - ***Ashwa Sanchalanasana:*** Om Adityaye Namaha
 - ***Hastapadasana:*** Om Savitre Namaha
 - ***Hasta Uttanasana:*** Om Arkaya Namaha
 - ***Pranamasana:*** Om Bhaskaraya Namaha
 - b. *Dandasana/Staff Pose*
 - c. *Vajrasana/Thunderbolt Pose*
 - d. *Paschimottanasana/Seated Forward Bend Pose*
 - e. *Trikonasana/Triangle Pose*
 - f. *Balasana/Child's Pose*
2. ***Pranayama/Breathing exercises:*** The process of controlling the 'prana' is called pranayama. It is effective for removing the bad toxin from the body and give positive energy. Pranayama and Yog asanas brought stability, improve blood circulation, calm the mind, and cure depression, stress & anxiety.
 - a. *Anulom-Vilom Pranayama/Alternate Nostril Breathing*
 - b. *Bhramari Pranayama/Bee Breathing*

Experimental Design

Before-And-After Experiments:

In the presented study, two groups of respondents were established, an experimental group and a control group. Dependant variable (anxiety) was measured before and after the observation of independent variable (yoga) of experimental group.

Design Procedure

- Conducted pre-test session and measure the anxiety level on the anxiety scale of 11th grade students.
- Then selected 40 students with high anxiety level and divided them into two group of 20 students.
- Finding the mean of both the groups.
- Used the yoga package on one group till 4 days for 1 hour per day.
- Conducted post-test session and compare the difference between the result of both groups.
- Finding the difference in mean by statistical method.

The following format was used in this design as follows:

S.no.	Pre-test session	Use of Independent variable	Post-test session
1	Score on the anxiety scale of subjects (x ¹)	Administered “Yoga Package programme”	Score on the anxiety scale of subjects (x ²)

Actual Administration

A. Pre-Test Session: First, all 75 student of grade 11th of government inter college were told about the purpose and importance of the study. After discussing the process of study and the required time, all the students were evaluated and were prepared for the corporation in the test. 40 subjects were selected based on the obtained results and divided into two groups. Experimental group and controlled group. Independent variable was used in experimental group and not involved controlled group for the session.

B. Procedure and instructions of experimental session: Second, the selected 20 subjects were informed about the time and day of the experiment so that all subjects would reach the room at fixed time.

- Practice sessions should start with a micro exercise for warming up followed by Surya Namaskar and then Yoga asanas to relax the body and mind.
- Yogic practices shall be performed slowly in a relaxed manner with awareness of the body and breath.
- Do not hold the breath unless it is especially mentioned to do during the practice. Breathing should be always through the nostrils unless instructed otherwise.
- Do not hold your body tightly or jerk the body at any point of time.
- Yoga sessions ended with Pranayama/Breathing exercise.
- After sitting quiet for a few minutes, all the subjects were asked to go to their class in peacefully one by one.

C. Post-Test Session: 40 subjects were given post anxiety test and were asked to give their answer based on their current experiences.

Statistical Analysis

Descriptive statistics such as Mean, SD, Fisher t-test, and Correlational analysis was used to present data and compare the effect of yoga on experimental group. A p-value less than .05 were considered as significant.

CHAPTER 4

Result

Table 1*Selection of students of 11th grade with high anxiety level*

<i>School Name</i>	<i>Grade</i>	<i>Age Group</i>	<i>Total Students</i>	<i>Selected</i>
<i>Students</i>				
Government Inter college	11 th	16-19yr	75	40

The purpose of this research was to measure the effect of yoga on anxiety level of 11th grade students. According to the tabulation & analysis of data, table 1 shows the selection of the students from the total population.

Table 2*N, Mean and Standard Deviation of Anxiety Pre-Post-Test Session of Experimental Group*

	Pre-test session	Post-test session
N	20	20
Mean	57.50	41.95
Standard Deviation	8.74	13.83

Table 2 shows the N, mean and standard deviation of Anxiety Pre-Post-Test Session of experimental Group. It revealed the difference in Anxiety pre-post-test before and after receiving yoga session among selected 20 students. The total score of pre-post-test session was 1150 and 839 respectively whereas the mean and SD of both sessions was 57.5, 41.9 and 8.74, 13.83 respectively.

Table 3*Correlation Coefficient of Anxiety Pre-Post-Test Session of Experimental Group*

Pre-post-test session	
Correlation	0.32

Table 3 shows the relation of pre-post-test of experimental group. The value of R was $(r)=0.32$; The value of R^2 , the coefficient of determination, is 0.1054.

Table 4*Fisher's T-Test Ratio of Anxiety Pre-Post-Test Session of Experimental Group*

Category	Pre-post-test session
'T' Ratio	4.27
'T' Value at the significance level .05	2.09
Degree of freedom	19

Note. * $p < .05$.

Table 4 shows the Fisher's T-Test Ratio of Anxiety Pre-Post-Test Session of experimental Group. The value of 'T' at the significance level of .05 for degree of freedom 19 is 2.09. The calculated 'T' value is 4.27. It is higher than the desired value of 2.09 and it shows that there was a significant effect of yoga in the student's anxiety level after post-test session. So, here the Null hypothesis is rejected, and the alternate hypothesis is accepted.

Furthermore, there was a significant effect of yoga on student with high level of anxiety as it shows positive relationship between pre-post-test session and the calculated 'T' value is 4.27 and it is highly significant at the desired value of 2.09. So, here the Null hypothesis is rejected, and the alternate hypothesis is accepted.

Table 5*Mean And Standard Deviation of Anxiety Pre-Post-Test Session of Controlled Group*

	Pre-test session	Post-test session
N	20	20
Mean	44.25	44.15
Standard Deviation	47.67	65.82

Table 5 shows the n, mean and standard deviation of Anxiety Pre-Post-Test Session of controlled Group. It revealed the difference in Anxiety pre-post-test without receiving yoga session among selected 20 students. The total score of pre-post-test session was 885 and 883 respectively whereas the mean and SD of both sessions was 44.25, 44.15 and 6.90, 8.11 respectively.

Table 6*Correlation Coefficient of Anxiety Pre-Post-Test Session of Controlled Group*

	Pre-post-test session
Correlation	0.23

Table 6 shows the relation of pre-post-test of controlled group. The value of R was (r) 0.23=; The value of R², the coefficient of determination, is 0.0544.

Table 7*Fisher's T-Test Ratio of Anxiety Pre-Post-Test Session of Controlled Group*

Category	Pre-post-test session
'T' Ratio	0.04
'T' Value at the significance level .05	2.09
Degree of freedom	19

Note. * $p < .05$.

Table 7 shows the Fisher's T-Test Ratio of Anxiety Pre-Post-Test Session of controlled Group. The value of 'T' at the significance level of .05 for degree of freedom 19 is 2.09. The calculated 'T' value is 0.04. It is lower than the desired value of 2.09 and it shows that there was a slight negative difference between pre-post-test without practice yoga programme.

Furthermore, there was no significant effect of yoga on student with high level of anxiety as it shows negative relationship between pre-post-test session and the calculated 'T' value is 0.04 and it is not significant at the desired value of 2.09. So, here the null hypothesis is accepted, and the alternate hypothesis is rejected.

CHAPTER 5

Discussion & Conclusion

In today's world, every individual is faced with an increasing number of problems. The early warning signs of mental health problems were not particularly noticed by the average person. The majority of people continue to experience anxiety, which slows the development of their physical and mental capacities. Senior secondary pupils are most prone to experience stress and anxiety. "What is the need to find out the students with high anxiety level and their techniques to manage anxiety?" is the query that emerges.

The student's anxiety level can be measured on the anxiety scale but what are the prevention methods? For this, psychological techniques such as self-analysis, group therapy, counselling etc. can be used, but if the number of highly anxious and stressed students is diagnosed, then the treatment of all can be hard on such a large scale as there are a low number of psychiatrist available. Looking at these circumstances, can yoga be affective in managing anxiety?

In this presented study, we observed that yoga encourages one to relax, slowed the breath while focusing on the present, shifting the balance from the sympathetic nervous system and the 'fight or flight' response to the parasympathetic nervous system and the relaxation response. The practice of yoga generates balanced energy which is vital to the functioning of immune system.

While no concrete guidelines have been published regarding the frequency of practice, there's a one liner saying that the more you practice, the more benefit you get.

Findings

In the experimental study presented the following conclusions were obtained on the basis of results:

1. It is observed that there is a significant effect of yoga on anxiety level of 11th class students on the basis of their significant differences on the pre-post-test sessions score of experimental groups. Independent variable is highly significant on dependent variable. So, here the null

hypothesis is rejected, and the alternate hypothesis is accepted. The related study of (Li & Goldsmith, 2012) studied the effects of yoga on anxiety and stress. This study noted a significant decrease in stress and anxiety symptoms when a yoga regimen was implemented.

2. It is observed that without the involvement of independent variable on controlled group showed no significance difference on the pre-post-test sessions scores. So, here the null hypothesis is accepted, and the alternate hypothesis is rejected.
3. It is showed that the yoga package programme which was developed with the help of yoga teacher and related literature for students; it considered that practice of yoga for 4 days might had given them peace, maturity of thoughts and awareness of handling life situations. It has also showed the positivity of emotions and feelings and reduction of negative thoughts and feelings which release the anxiety. (Gupta et al., 2006) reported a significant reduction in anxiety levels following a yoga-based lifestyle intervention.

In present students do not find the time, even few hours for their health to relieve anxiety but as this study showed and proved that the regular practice of yoga has its effects in students' anxiety level. (Sharma et al., 2008) found that a brief lifestyle intervention based on yoga significantly improved subjective well-being in both healthy individuals and those with various illnesses. It also proved that continuance practice of yoga has helped them to improve the physical and psychological health and in managing or coping anxiety.

Limitations & Suggestions

The following limitations and suggestions are necessary due to the lack of time and adequate resources for the presentation of this research.

1. The study was done only on 11th grade students. In the future, it can also be done on university and college students.
2. Comparative analysis of different levels of anxiety and yoga can also be studied in the future.
3. Yoga has been used for 4 days only in this presented study. This can be done for longer period.

4. Students of almost equal age, different age, rural/urban, educational level, and school etc. has been included in the forthcoming studies.
5. This study is based on only one dependent and independent variable. In future, it can include other variables like PCOD, PCOS, Depression, PTSD, frustration, and Quality of life.
6. The study can be done on the larger sample.

REFERENCES

- Albracht-Schulte, K., & Robert-McComb, J. J. (2018). The effects of yoga and quiet rest on subjective levels of anxiety and physiological correlates: a 2-way crossover randomized trial. *BMC Complementary and Alternative Medicine*, 18(1). <https://doi.org/10.1186/s12906-018-2343-1>
- Anxiety. (2023). <https://dictionary.cambridge.org/dictionary/learner-english/anxiety>
- Azami, M., Shohani, M., Badfar, G., Nasirkandy, M., Kaikhavani, S., Rahmati, S., Modmeli, Y., & Soleymani, A. (2018). The effect of yoga on stress, anxiety, and depression in women. *International Journal of Preventive Medicine*, 9(1), 21. https://doi.org/10.4103/ijpvm.ijpvm_242_16
- Brown, J. L. C., Eubanks, C., & Keating, A. (2016). Yoga, quality of life, anxiety, and trauma in low-income adults with mental illness: A mixed-methods study. *Social Work in Mental Health*, 15(3), 308–330. <https://doi.org/10.1080/15332985.2016.1220441>
- Choube, V. S., & Garg, N. K. (2020). A review on psycho physiological impacts of yoga on Anxiety in undergraduate students. *International Journal on Integrated Education*, 3(7), 119–121. <https://doi.org/10.31149/ijie.v3i7.508>
- Clark, L. R., Edwards, S. D., Thwala, W. D., & Louw, P. (2011). The influence of yoga therapy on anxiety. *Inkanyiso*, 3(1). <https://doi.org/10.4314/ijhss.v3i1.69502>
- Cramer, H., Lauche, R., & Dobos, G. (2014). Characteristics of randomized controlled trials of yoga: a bibliometric analysis. *BMC Complementary and Alternative Medicine*, 14(1). <https://doi.org/10.1186/1472-6882-14-328>
- Da Silva, T. L., Ravindran, L. N., & Ravindran, A. (2009). Yoga in the treatment of mood and anxiety disorders: A review. *Asian Journal of Psychiatry*, 2(1), 6–16. <https://doi.org/10.1016/j.ajp.2008.12.002>

- Falsafi, N. (2016). A randomized controlled trial of mindfulness versus yoga: effects on depression and/or anxiety in college students. *Journal of the American Psychiatric Nurses Association*, 22(6), 483-497.
- Gard, T., Brach, N., Hölzel, B. K., Noggle, J. J., Conboy, L., & Lazar, S. W. (2012). Effects of a yoga-based intervention for young adults on quality of life and perceived stress: The potential mediating roles of mindfulness and self-compassion. *The Journal of Positive Psychology*, 7(3), 165–175. <https://doi.org/10.1080/17439760.2012.667144>
- Gard, T., Noggle, J. J., Park, C. L., Vago, D. R., & Wilson, A. (2014). Potential self-regulatory mechanisms of yoga for psychological health. *Frontiers in Human Neuroscience*, 8. <https://doi.org/10.3389/fnhum.2014.00770>
- Gupta, N., Khera, S., Vempati, R. P., Sharma, R., & Bijlani, R. L. (2006). Effect of yoga-based lifestyle intervention on state and trait anxiety. *Indian journal of physiology and pharmacology*, 50(1), 41–47.
- Hagins, M., Haden, S. C., & Daly, L. (2013). A randomized controlled trial on the effects of yoga on stress reactivity in 6th grade students. *Evidence-based Complementary and Alternative Medicine*, 2013, 1–9. <https://doi.org/10.1155/2013/607134>
- Javnbakht, M., Kenari, R. H., & Ghasemi, M. (2009). Effects of yoga on depression and anxiety of women. *Complementary Therapies in Clinical Practice*, 15(2), 102–104. <https://doi.org/10.1016/j.ctcp.2009.01.003>
- Joshi, A. M., & De Sousa, A. (2012). Yoga in the management of anxiety disorders. *Sri Lanka Journal of Psychiatry*, 3(1), 3. <https://doi.org/10.4038/slpsyc.v3i1.4452>
- Kamble, P., S Daulatabad, V., & Rukadikar, C. (2019). Role of yoga in relieving anxiety in MBBS students. *Indian Journal of Clinical Anatomy and Physiology*, 6(3), 335–337. <https://doi.org/10.18231/j.ijcap.2019.073>
- Kaur, R. (n.d.-b). *Criminal Psychology*. R. Kaur: 9788176297882 - AbeBooks. <https://www.abebooks.com/9788176297882/Criminal-Psychology-8176297887/plp>

- Khalsa S. B. (2004). Yoga as a therapeutic intervention: a bibliometric analysis of published research studies. *Indian journal of physiology and pharmacology*, 48(3), 269–285.
<https://pubmed.ncbi.nlm.nih.gov/15648399/>
- Khalsa, S. B. S., Hickey-Schultz, L., Cohen, D., Steiner, N. J., & Cope, S. (2011). Evaluation of the mental health benefits of yoga in a secondary school: a preliminary randomized controlled trial. *Journal of Behavioral Health Services & Research*, 39(1), 80–90.
<https://doi.org/10.1007/s11414-011-9249-8>
- Kirkwood, G., Rampes, H., Tuffrey, V., Richardson, J., & Pilkington, K. (2005). Yoga for anxiety: a systematic review of the research evidence. *British Journal of Sports Medicine*, 39(12), 884–891. <https://doi.org/10.1136/bjsm.2005.018069>
- Kjellgren, A., Bood, S. Å., Axelsson, K., Norlander, T., & Saatcioglu, F. (2007). Wellness through a comprehensive Yogic breathing program – A controlled pilot trial. *BMC Complementary and Alternative Medicine*, 7(1). <https://doi.org/10.1186/1472-6882-7-43>
- Kozasa, E. H., Santos, R. F., Rueda, A. D., Benedito-Silva, A. A., De Moraes Ornellas, F. L., & Leite, J. R. (2008). Evaluation of Siddha Samadhi Yoga for Anxiety and Depression Symptoms: A Preliminary study. *Psychological Reports*, 103(1), 271–274.
<https://doi.org/10.2466/pr0.103.1.271-274>
- Kumar, V.V., & Aanand, S. (2016). Yoga: A Case of Reverse Innovation. *Purushartha: A Journal of Management Ethics and Spirituality*, 8, 12-18.
- Kumar, N., & Singh, K. (2019). Effect of nada yoga on hypertension & anxiety level. *GeoBit*, 14(6), 1–16. <https://doi.org/10.26643/gis.v14i6.10460>
- Lemay, V., Hoolahan, J., & Buchanan, A. (2019). Impact of a yoga and meditation intervention on students' stress and anxiety levels. *The American Journal of Pharmaceutical Education*, 83(5), 7001. <https://doi.org/10.5688/ajpe7001>
- Li, A. W., & Goldsmith, C. A. W. (2012). The effects of yoga on anxiety and stress. *Alternative Medicine Review*, 17(1). <https://pubmed.ncbi.nlm.nih.gov/22502620/>

- Malathi, A., & Damodaran, A. (1999). Stress due to exams in medical students-a role of Yoga. *Indian journal of physiology and pharmacology*, 43, 218-224.
- Moss, C. (2001). The Desktop Guide to Complementary and Alternative Medicine: an Evidence-based Approach. *Journal of the Royal Society of Medicine*, 94(12), 650–651.
<https://doi.org/10.1177/014107680109401218>
- Muñoz, A. (2015). David Gordon White, The Yoga Sutra of Patanjali. A Biography, Princeton, Princeton University Press, 2014, 273 pp. *Estudios De Asia Y África*, 50(2(157), 518.
[https://doi.org/10.24201/ea.v50i2\(157.2215](https://doi.org/10.24201/ea.v50i2(157.2215)
- Padhy, S. (2016). The Technology of Yoga - An Imperative Scientific Implementation to Harmonize the Diversity of Human Society: A Review. *Journal of Biodiversity*, 7(2), 77–87.
<https://doi.org/10.1080/09766901.2016.11884760>
- Pascoe, M., & Bauer, I. E. (2015). A systematic review of randomised control trials on the effects of yoga on stress measures and mood. *Journal of Psychiatric Research*, 68, 270–282.
<https://doi.org/10.1016/j.jpsychires.2015.07.013>
- Rahimi, E., & Bavaqar, S. (2010). Effects of yoga on anxiety and depression in women. *British Journal of Sports Medicine*, 44(Suppl_1), i68–i69.
<https://doi.org/10.1136/bjsm.2010.078725.227>
- Rejeski, W. J., & Mihalko, S. L. (2001). Physical activity and quality of life in older adults. *The Journals of Gerontology: Series A*, 56(Supplement 2), 23–35.
https://doi.org/10.1093/gerona/56.suppl_2.23
- Rosenberg, M. (2018). *Reducing Anxiety in Elementary School Children by Implementing Yoga*.
- Ross, A., & Thomas, S. (2010). The Health Benefits of yoga and Exercise: A review of comparison studies. *Journal of Alternative and Complementary Medicine*, 16(1), 3–12.
<https://doi.org/10.1089/acm.2009.0044>
- Saeed, S. A., Cunningham, K., & Bloch, R. M. (2019). Depression and anxiety disorders: benefits of exercise, yoga, and meditation. *American family physician*, 99(10), 620-627.

- Sharma, R. A. T. N. A., Gupta, N., & Bijlani, R. L. (2008). Effect of yoga based lifestyle intervention on subjective well-being. *Indian J Physiol Pharmacol*, 52(2), 123-31.
- Shohani, M., Badfar, G., Nasirkandy, M. P., Kaikhavani, S., Rahmati, S., Modmeli, Y., Soleymani, A., & Azami, M. (2018). The effect of yoga on stress, anxiety, and depression in women. *International Journal of Preventive Medicine*, 9(1), 21.
https://doi.org/10.4103/ijpvm.ijpvm_242_16
- Somerstein, L. (2010). Together in a room to alleviate anxiety: Yoga breathing and psychotherapy. *Procedia - Social and Behavioral Sciences*, 5, 267–271.
<https://doi.org/10.1016/j.sbspro.2010.07.086>
- Sudharkodhy, S., Kutty, K., Patil, N. J., & Shanka, V. (2020). Short term effect of integrated yoga on anxiety, stress, and heart rate variability in first year medical student. *Indian Journal of Clinical Anatomy and Physiology*, 5(1), 97–103. <https://doi.org/10.18231/2394-2126.2018.0022>
- Vollbehr, N. K., Bartels-Velthuis, A. A., Nauta, M., Castelein, S., Steenhuis, L. A., Hoenders, R., & Ostafin, B. D. (2018). Hatha yoga for acute, chronic and/or treatment-resistant mood and anxiety disorders: A systematic review and meta-analysis. *PLOS ONE*, 13(10), e0204925.
<https://doi.org/10.1371/journal.pone.0204925>
- Williams-Orlando, C. (2013). Yoga therapy for anxiety: a case report. *Advances in Mind-Body Medicine*, 27(4), 18-21.
- Woodyard, C. (2011). Exploring the therapeutic effects of yoga and its ability to increase quality of life. *International Journal of Yoga*, 4(2), 49. <https://doi.org/10.4103/0973-6131.85485>
- Yadav, R. K., Magan, D., Mehta, M., Mehta, N., & Mahapatra, S. C. (2012). A short-term, comprehensive, yoga-based lifestyle intervention is efficacious in reducing anxiety, improving subjective well-being and personality. *International Journal of Yoga*, 5(2), 134.
<https://doi.org/10.4103/0973-6131.98235>

Yoga as a therapeutic intervention: a bibliometric analysis of published research studies. (2004,

July 1). PubMed. <https://pubmed.ncbi.nlm.nih.gov/15648399/>

Yuan, X. (2020). Anxiety: a concept analysis. *Frontiers of Nursing*, 7(1), 9–12.

<https://doi.org/10.2478/fon-2020-0008>

Zenner, C., Herrnleben-Kurz, S., & Walach, H. (2014). Mindfulness-based interventions in schools—a systematic review and meta-analysis. *Frontiers in Psychology*, 5.

<https://doi.org/10.3389/fpsyg.2014.00603>